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U.S. Patent No. 11,319,164 entitled "Self-Locking Charging Hopper" issued May 3, 2022 to Kleemann GmbH of Goppingen, Germany. Invented by Christian Weller of Geislingen, Germany. Abstract: The invention relates to a charging unit of a material processing apparatus having a charging hopper, the side walls (22) and rear walls (23) of which can be folded over between a working and a transport position by means of actuators (40, 50). A deflection element is provided, which converts the movement of an actuator during a portion of a movement thereof into a rotational movement of the rear wall or of the side wall and, during a further portion, into a translational movement. As a result of the rotational movement, the rear and side wall can be pivoted between the working and transport position, while by means of the translational movement, the rear and side wall can be connected to each other by means of an appropriate closure (60). By means of the deflection element, a simple, self-securing, and economical structure of the charging hopper is made possible.

U.S. Patent No. 11,319,014 entitled "Electric Drive Motorcycle" issued May 3, 2022 to Piaggio & C. S.P.A. of Pontedera, Italy. Invented by Luca Carmignani; Paolo Capozzella; Jury Cantini and Walter Mariotti all of Pontedera, Italy. Abstract: An electric drive motorcycle (100), allows an effective arrangement of the battery unit thereof, optimizing the available space, and comprises: a front portion comprising one or more front wheels (103) and a handlebar (104); a rear portion comprising a saddle (101), a shell body (107) arranged below said saddle (101), and a rear wheel (105) arranged below said shell body (105); an intermediate portion (108) extending as a connection between said front portion and said rear portion; an electric drive unit (8) connected to said rear wheel by means of a transmission unit; and a power supply unit feeding said electric drive unit and comprising at least a battery unit (15; 115), wherein said battery unit (15; 115) is shaped so as to have a polyhedral shape comprising at least a first side (28) tilted with respect to a vertical plane orthogonal to the front-rear direction of the motorcycle (100), wherein the battery unit (115) occupies a position below a helmet carrying compartment (11) arranged below the saddle (101), and wherein the battery unit (115) extending transversally from side to side in its own portion of a housing space existing in said shell body (107).

U.S. Patent No. 11,320,830 entitled "Probabilistic Decision Support for Obstacle

Detection and Classification in a Working Area" issued May 3, 2022 to Deere & Company of Moline, Illinois. Invented by Stewart J. Moorehead and Mark J. Cherney also of Moline, Illinois. Abstract: Systems and methods disclosed herein provide probabilistic decision support regarding detected obstacles in a working area. Real-time data sets are collected from obstacle sensors associated with at least one self-propelled work vehicle, corresponding to detected presence/absence of obstacles at given locations within the working area. The received real-time data sets are integrated in data storage comprising a priori data sets corresponding to the working area, to generate one or more new a priori data sets. Probabilities are determined for the detected presence or absence of the obstacle, and for each of one or more obstacle categories, based on the received real-time data set and at least an a priori data set corresponding to the work vehicle's location. An output corresponding to at least a most likely of the determined probabilities is generated as feedback to a user interface, and/or relevant machine control units.

U.S. Patent No. 11,318,941 entitled "Working Combination Encompassing an Earth Working Machine and a Further Vehicle, and an Automatic Spacing Monitoring System" issued May 3, 2022 to Wirtgen GmbH of Windhagen, Germany. Invented by Matthias Fritz of Hennef, Germany; Herbert Lange of Overath, Germany; Marc Pees of Niederbreitbach, Germany; Carmen Kania of Ruppichteroth, Germany. Abstract: A system is provided for monitoring spacing during working operation between a first vehicle and at least one further self-propelled vehicle. A beam source is on one vehicle (source vehicle). A sensor arrangement on another vehicle (target vehicle) extends along a sensor axis. In a predetermined reference state, with the vehicles having a predetermined reference spacing apart, the beam source radiates toward the target vehicle electromagnetic radiation such that a predetermined sensor-axial reference detection region on the sensor arrangement is irradiated by the beam source. A change in the vehicle spacing results in a change, along the sensor axis, in the position of the detection region on the irradiated sensor arrangement, and thus in a change in the detection state of the sensor arrangement. Based on the detection state which depends on an actual spacing of the source and target vehicles, a spacing signal is generated with vehicle spacing information.