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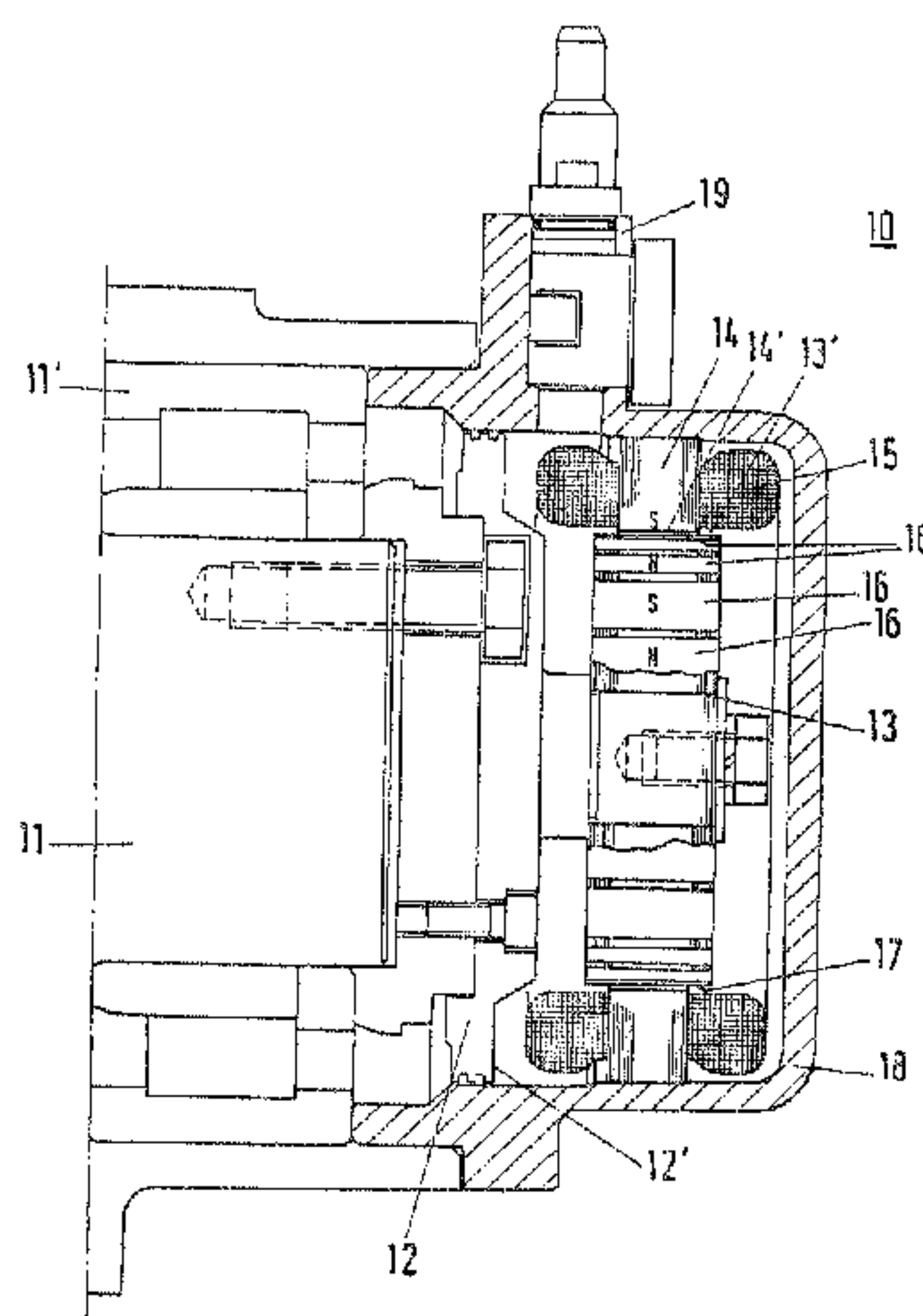
(73) KNORR-BREMSE MRP SYSTEME FÜR SCHIENENFAHRZEUGE
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(54) **METHODE SERVANT A PRODUIRE DE L'ENERGIE
ELECTRIQUE AU MOYEN DE GENERATRICES, ET
UTILISATION DE LA METHODE DANS DES VEHICULES
EQUIPES D'UN SYSTEME ANTIDERAPANT**

(54) **METHOD OF PRODUCING ELECTRICAL ENERGY BY MEANS
OF GENERATORS AND USE OF THE METHOD IN VEHICLES
WITH ANTI-SKID SYSTEMS**



(57) A method of producing electrical energy from rotary motion of an axle of a vehicle utilizes a generator assembly including a generator coupled to the axle. The method includes determining the rate of rotation of the axle, carrying out the electrical energy production as well as the determination of the rate of rotation exclusively through the generator, and evaluating pulse parameters of each induced electrical voltage pattern for the determination of the rate of rotation. The generator assembly includes a rotor coupled to the axle and permanent magnets mounted on the rotor distributed over the circumference thereof. The permanent magnets have radially extending polar axes. A stator includes induction coils mounted coaxially around the circumference of the rotor. An air gap is defined between the stator and the rotor. The effective pole surface of the stator has an axial extension which is smaller than the axial extension of the pole surface of the rotor, so that a pole overlap ratio between the rotor and the stator is greater than 1 in any situation of operation. The arrangement also includes an electronic unit for evaluating the generator functions. The method and arrangement can be used in anti-skid systems of a plurality of coupled vehicles, particularly of vehicles traveling on rails, and in a drive slippage control system of a vehicle, particularly a vehicle which travels on rails.

ABSTRACT OF THE DISCLOSURE

A method of producing electrical energy from rotary motion of an axle of a vehicle utilizes a generator assembly including a generator coupled to the axle. The method includes determining the rate of rotation of the axle, carrying out the electrical energy production as well as the determination of the rate of rotation exclusively through the generator, and evaluating pulse parameters of each induced electrical voltage pattern for the determination of the rate of rotation. The generator assembly includes a rotor coupled to the axle and permanent magnets mounted on the rotor distributed over the circumference thereof. The permanent magnets have radially extending polar axes. A stator includes induction coils mounted coaxially around the circumference of the rotor. An air gap is defined between the stator and the rotor. The effective pole surface of the stator has an axial extension which is smaller than the axial extension of the pole surface of the rotor, so that a pole overlap ratio between the rotor and the stator is greater than 1 in any situation of operation. The arrangement also includes an electronic unit for evaluating the generator functions. The method and arrangement can be used in anti-skid systems of a plurality of coupled vehicles, particularly of vehicles traveling on rails, and in a drive slippage control system of a vehicle, particularly a vehicle which travels on rails.

