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(54) Title (EN): METALLIC FOREIGN SUBSTANCE DETECTION APPARATUS

(54) Title (FR): APPAREIL DE DÉTECTION DE SUBSTANCE ÉTRANGÈRE MÉTALLIQUE

(54) Title (KO): 금속이물 검출장치

(57) Abstract:

(EN): A metallic foreign substance detection apparatus is provided. The metallic foreign substance detection apparatus comprises: a detection unit that detects changes in magnetic properties due to a metallic foreign substance present in a target object for detection so as to detect the metallic foreign substance; a first return unit that is arranged in a front side of the detection unit and that returns the target object for detection to the detection unit; a second return unit that is arranged in a rear side of the detection unit and that returns the target object for detection that has passed through the detection unit; and a conveyor belt that passes by the first return unit, the detection unit and the second return unit, wherein the detection unit includes a sensor coil and a protective case wrapped around the sensor coil, and a filling material is included inside the protective case so as to fix the sensor coil to the protective case.

(FR): La présente invention concerne un appareil de détection de substance étrangère métallique. L'appareil de détection de substance étrangère métallique comprend : une unité de détection qui détecte des changements de propriétés magnétiques dus à une substance étrangère métallique présente dans un objet cible pour détection de façon à détecter la substance étrangère métallique ; une première unité de retour qui est agencée dans un côté avant de l'unité de détection et qui retourne l'objet cible pour détection à l'unité de détection ; une deuxième unité de retour qui est agencée dans un côté arrière de l'unité de détection et qui retourne l'objet cible pour détection qui a traversé l'unité de détection ; et un tapis de transport qui passe par la première unité de retour, l'unité de détection et la deuxième unité de retour, l'unité de détection comprenant une bobine de capteur et un boîtier de protection enroulé autour de la bobine de capteur, et un matériau de remplissage étant inclus à l'intérieur du boîtier de protection de façon à fixer la bobine de capteur au boîtier de protection.

(KO): 금속이물 검출장치가 제공된다. 상기 금속이물 검출장치는, 피검출물 내에 존재하는 금속이물에 의한 자기적 특성(magnetic property) 변화를 감지하여 상기 금속이물을 검출하는 검출부, 상기 검출부의 앞측에 구비되어, 상기 피검출물을 상기 검출부까지 반송하는 제1 반송부, 상기 검출부의 뒤측에 구비되어, 상기 검출부를 통과한 상기 피검출물을 반송하는 제2 반송부, 및 상기 제1 반송부, 상기 검출부 및 상기 제2 반송부를 지나가는 컨베이어벨트를 포함하고, 상기 검

출부는 센서코일과 상기 센서코일을 감싸는 보호케이스를 포함하고, 상기 보호케이스 내부에는 충전물질이 포함되어 상기 센서코일을 상기 보호케이스에 고정시킨다.

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