

Title (en)  
Device for sorting metal pieces.

Title (de)  
Vorrichtung zum Sortieren von Metallteilen.

Title (fr)  
Dispositif de tri de pièces métalliques.

Publication  
**EP 0096092 A1 19831221 (DE)**

Application  
**EP 82104970 A 19820607**

Priority  
EP 82104970 A 19820607

Abstract (en)  
1. Device for the sorting of metal parts (1), in particular of pieces of scrap, according to their composition, when passing through via a conveyor belt (3), under which is fixed close to the underside of the belt an X-ray or isotope radiation source (5), the rays of which penetrate the conveyor belt to reach the metal parts, at least one detector (6) being provided to intercept the rays emitted by the metal parts (1), to which detector a computer is connected which analyses the electrical signals generated by the detector (6) and controls downstream sorting equipment (7), characterized in that the conveyor belt (3) consists of plastic or rubber and does not have any clearances or openings, in that the conveyor belt (3) is concavely channelled transverse to the longitudinal direction, and in that radiation source (5) and a detector (6) are arranged approximately radial to the belt curvature and emit and receive, respectively, rays in particular in this direction.

Abstract (de)  
Die Erfindung betrifft ein Verfahren zum Sortieren von Metallteilen im Durchlauf über eine Transporteinrichtung. Die auf die laufende Transporteinrichtung (3) gegebenen Metallteile (1) durchwandern innerhalb eines kurzen Bewegungsbereichs Röntgen- oder Isotopenstrahlen. Die von den Metallteilen (1) abgegebenen Strahlen, insbesondere Röntgenspektren, Röntgenfluoreszenz, werden von mindestens einem Detektor (6) aufgefangen und von einem Rechner analysiert, der nachgeordnete Sortiergeräte (7) steuert.

IPC 1-7  
**B07C 5/346**; **B07C 5/36**

IPC 8 full level  
**B07C 5/346** (2006.01); **B07C 5/36** (2006.01)

CPC (source: EP)  
**B07C 5/346** (2013.01); **B07C 5/36** (2013.01); **B07C 2501/0036** (2013.01); **B07C 2501/0054** (2013.01)

Citation (search report)  
• [X] CA 1110996 A 19811020 - RESOURCE RECOVERY LIMITED  
• [Y] GB 1103591 A 19680221 - NAT RES DEV  
• [Y] FR 2271880 A1 19751219 - SIDERURGIE FSE INST RECH [FR]  
• [Y] US 3747755 A 19730724 - SENTURIA S, et al  
• [Y] US 4279346 A 19810721 - MCCLURE WILLIAM F, et al

Cited by  
EP0795919A3; CN107838044A; CN110000000A; ES2359691A1; CN102500454A; AU2011100234B4; AU2006220232B2; EP1864126A4; AU2011100234C4; AU2006220232C1; US11358179B2; US7616733B2; US10486209B2; WO2006092011A1; WO2004033117A1; WO2017108908A1; US8426821B2; US10024810B2; US7763820B1; US8476545B2; CN108463293A; KR20180090892A; JP2019503850A

Designated contracting state (EPC)  
BE CH DE FR GB IT LI LU NL SE

DOCDB simple family (publication)  
**EP 0096092 A1 19831221**; **EP 0096092 B1 19870128**; DE 3275274 D1 19870305

DOCDB simple family (application)  
**EP 82104970 A 19820607**; DE 3275274 T 19820607