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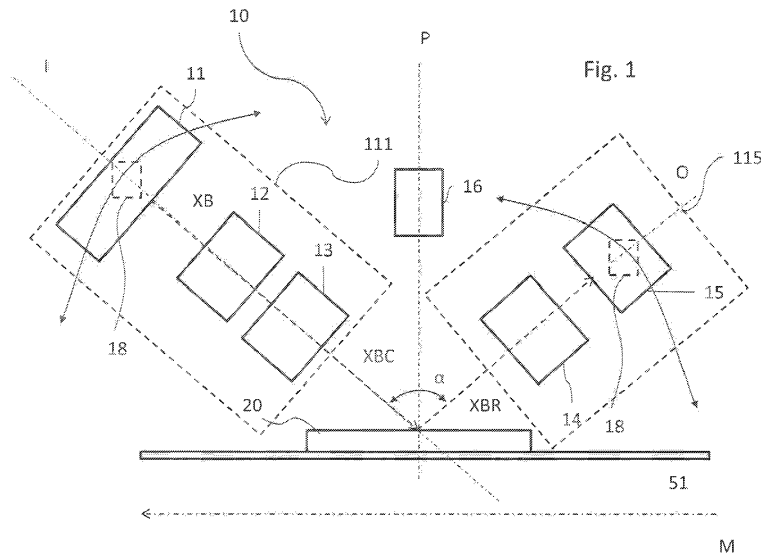
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(54) Title: APPARATUS FOR SELECTING PRODUCTS ON THE BASIS OF THEIR COMPOSITION BY X RAY FLUORESCENT SPECTROSCOPY AND CORRESPONDING SELECTION METHOD



(57) Abstract: An apparatus for selecting products on the basis of their composition via X-ray fluorescence spectroscopy comprises an X-ray source (11) that emits an X-ray beam (XB, XBC) towards a product sample (20), and a particle detector (15) for receiving an X-ray beam (XBR) diffused by said product sample (20) and generating a signal received that can be analysed to determine a chemical composition of said product sample (20) and select a type of product corresponding to said chemical composition of the product sample (20). According to the invention, the aforesaid apparatus (10) comprises a first vacuum chamber (13) located between an output (45) of the apparatus (10) facing the product sample (20) and said X-ray source (11), and a second vacuum chamber (14) located between said output (45) of the apparatus (10) facing the product sample (20) and said detector (15), said apparatus (10) further comprising an

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optical module (12) with polycapillary lens located downstream of said X-ray source (11), which is configured for focusing said X-ray beam (XB) and is moreover associated in a vacuum-tight way to said first vacuum chamber (13).