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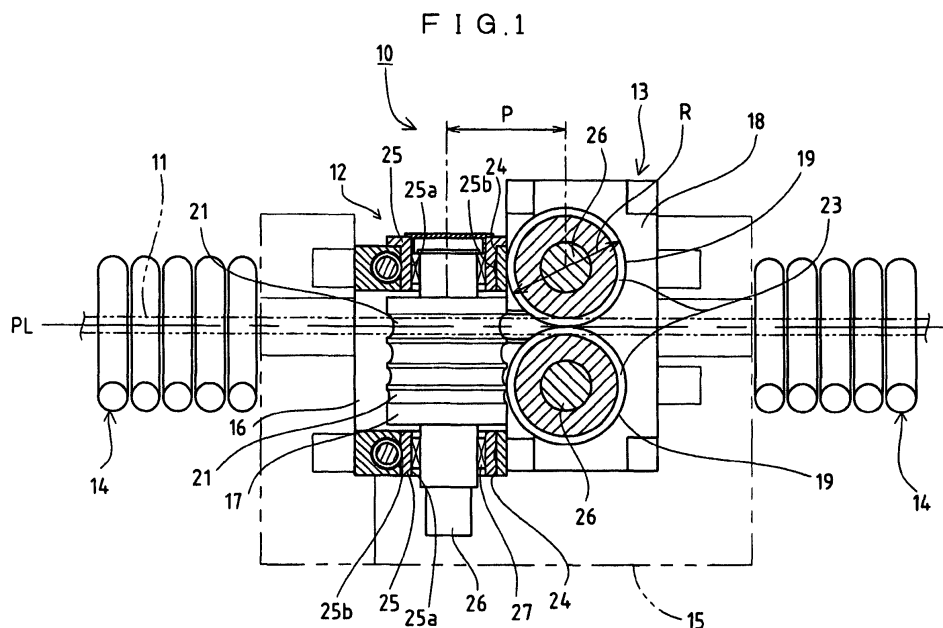
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(54) **Reversible guideless rolling mill**

(57) A pair of rolling machines 12 and 13 are arranged in series in alignment with a pass line PL along which a workpiece 11 to be rolled is passed. The center distance P between the first rolls 17 of the first rolling machine 12 and second rolls 19 of the second rolling machine 13 is designed to be not more than 1.5 times the roll diameter R. The rotational axes of the first rolls 17 are displaced by an angle of 90° from those of the

second rolls 19 and are inclined at an angle of 45° respectively with respect to the horizontal plane. A plurality of dual-purpose calibers 21/23 are defined between the rolls 17/19 of the rolling machines 12/13 to be arranged in the axial direction, respectively. The rolls 17 and 19 are shifted in crossing directions to the pass line PL respectively so as to bring desired dual-purpose calibers 21 and 23 in alignment with the pass line PL.





European Patent
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EUROPEAN SEARCH REPORT

Application Number
EP 01 11 5102

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The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 30 September 2004	Examiner Rosenbaum, H
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