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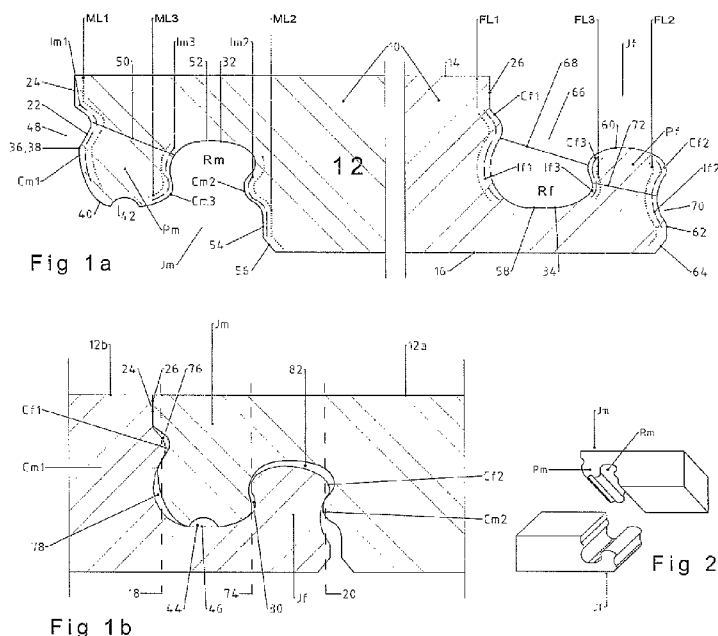
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(54) Title: VERTICAL JOINT SYSTEM AND ASSOCIATED SURFACE COVERING SYSTEM

(57) Abstract: A vertical joint system (10) for substrates (12) is formed with joints Jm and Jf which engaged by relative motion in a direction perpendicular to major surfaces (14) and (16) of the substrate (12). The joints are configured to enable relative rotation of up to (3) degrees (i.e. clockwise or anticlockwise) while maintaining engagement of the joints. The joints Jm and Jf are further configured to form two locking planes (18, 20) one on each of the inner and outer most sides of the joint. Engagement about the locking planes (18, 20) is provided by transverse outward extending surfaces Cm1, Cm2, Cf1 and Cf2. The surface Cf1 and Cf2 overhang the surfaces Cm1 and Cm2. At least one surface in each pair of engaging surfaces: Cf1 and Cm1; and, Cf2 and Cm2 is smoothly curved. The joints Jm and Jf can be further arranged to provide a third locking plane (74) parallel to and between the locking planes (18, 20). The joints are disengaged by combination of a downward rotation of one joint relative the other then application of a downward force. By virtue of these features flooring with the joint system can be laid on sub-surfaces which have undulations greater than current world industry standards. Additionally replacement of damaged substrates is possible by vertical lifting of damaged substrates without the need to pull up ex-

cess flooring from the closest wall to the damaged substrates.