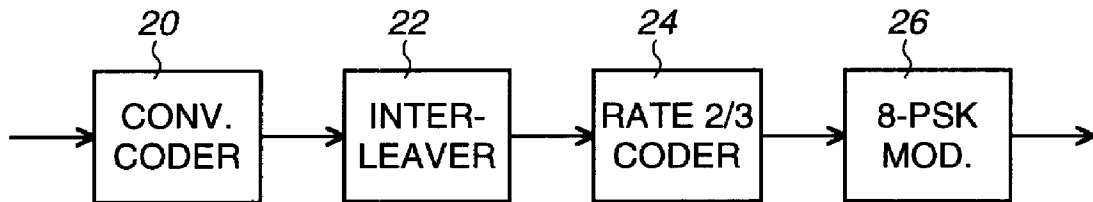




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(54) **METHODS ET APPAREIL DE CODAGE**  
(54) **ENCODING METHODS AND APPARATUS**



(57) An encoder for a communications system comprises a convolutional coder, followed by a block interleaver, followed by a second coder which is a systematic encoder producing both systematic information corresponding to the interleaved information supplied to the input of this coder and parity information produced therefrom by encoding in accordance with Ungerboeck generator polynomials. The second coder can be a rate 2/3 coder, producing one parity bit for every two bits of systematic information, and a following modulator is conveniently an 8-PSK (phase shift keying) modulator producing one modulation symbol for every two systematic bits and associated one parity. A complementary demodulating and decoding arrangement is also described.