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[Continued on next page]

(54) **Title**: METHODS AND ARRANGEMENTS IN A TELECOMMUNICATIONS NETWORK

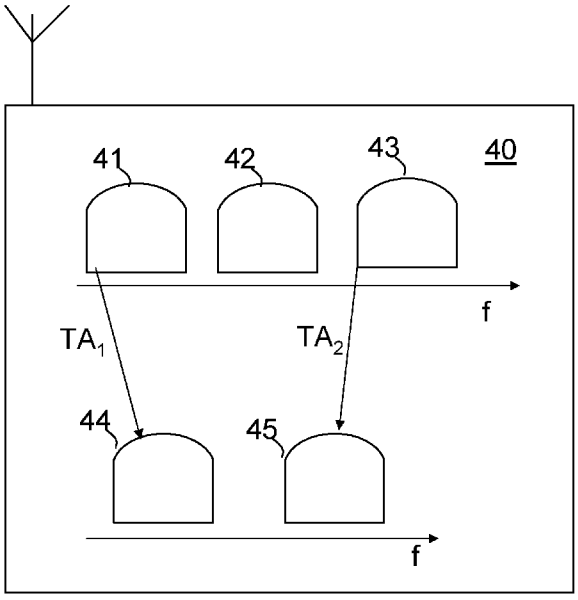


Fig 4

(57) **Abstract**: The present invention relates to methods and arrangements in a base station and a user equipment for determining an uplink transmission timing correction for communication in a telecommunication system in which aggregation of component carriers is applied. The base station receives a signal from the user equipment on a uplink (UL) component carrier and measures the arrival time of the signal. A timing correction of the UL transmission timing based on the arrival time of the signal is determined. Thereupon the base station determines for which of the uplink component carriers used by the user equipment the timing correction is valid. The timing correction and the validity information is sent to the user equipment. The user equipment adjusts the UL transmission timing for each UL component carrier the timing correction is valid for.

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