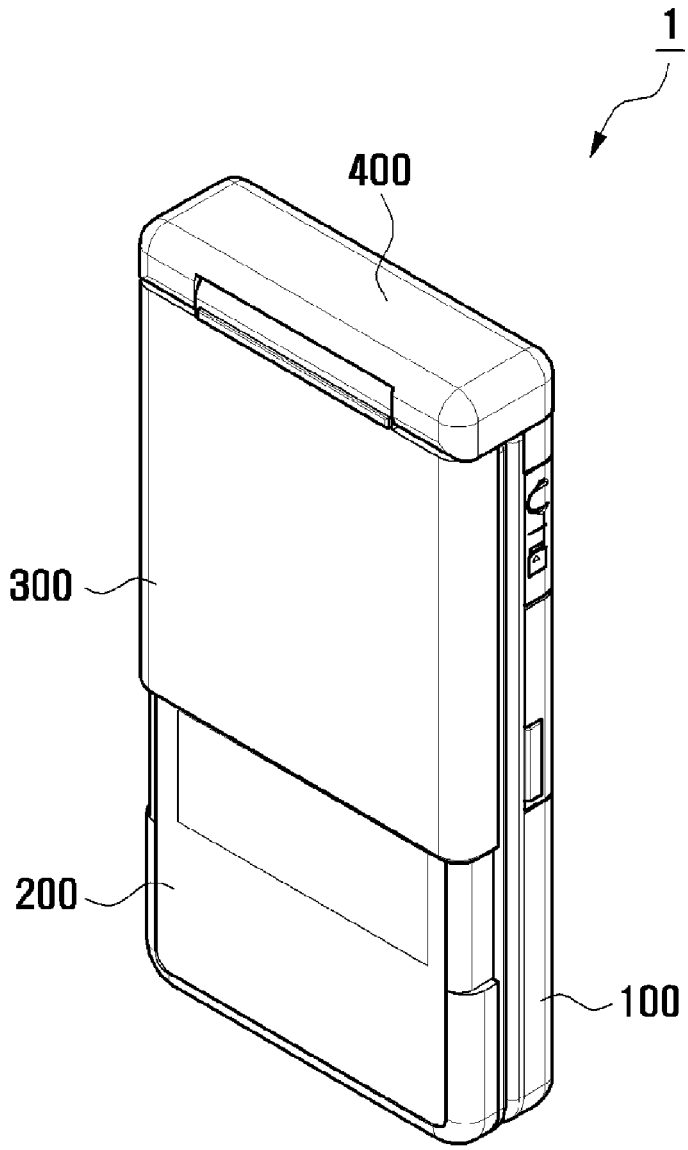FIG . 1a