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(12) **United States Patent**  
**Astala et al.**

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(54) **TOUCH SCREEN DRAG AND DROP INPUT TECHNIQUE**

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(\*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 200 days.

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(57) **ABSTRACT**

A method of and apparatus for dragging and dropping items displayed on a touch screen. In one embodiment, the item on the touch screen is touched with a pressure greater than a first predetermined pressure for a first predetermined period of time. The pressure on the item is then reduced, and the item is dragged with the reduced pressure to a second location at which the touch screen is touched with a pressure greater than a second predetermined pressure for a time duration greater than a second predetermined time period. In another embodiment, the item on the touch screen is touched with a pressure greater than a predetermined pressure for a first predetermined period of time, and then the touch screen is touched at a second location with a pressure greater than the predetermined pressure for a second predetermined period of time, less than the first predetermined period of time.

(21) Appl. No.: **09/714,939**

(22) Filed: **Nov. 20, 2000**

(51) **Int. Cl.**<sup>7</sup> ..... **G09G 5/00**; G09G 5/08

(52) **U.S. Cl.** ..... **345/173**; 345/156; 345/157;  
178/18.01

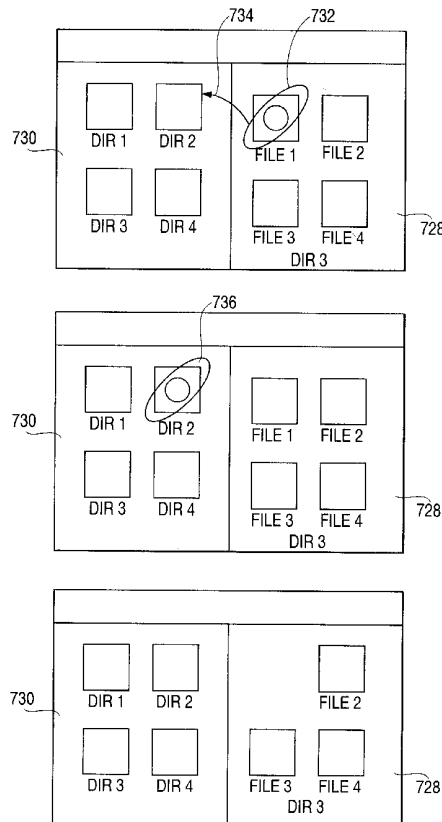
(58) **Field of Search** ..... 345/156-179,  
345/799, 856-857

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**24 Claims, 7 Drawing Sheets**



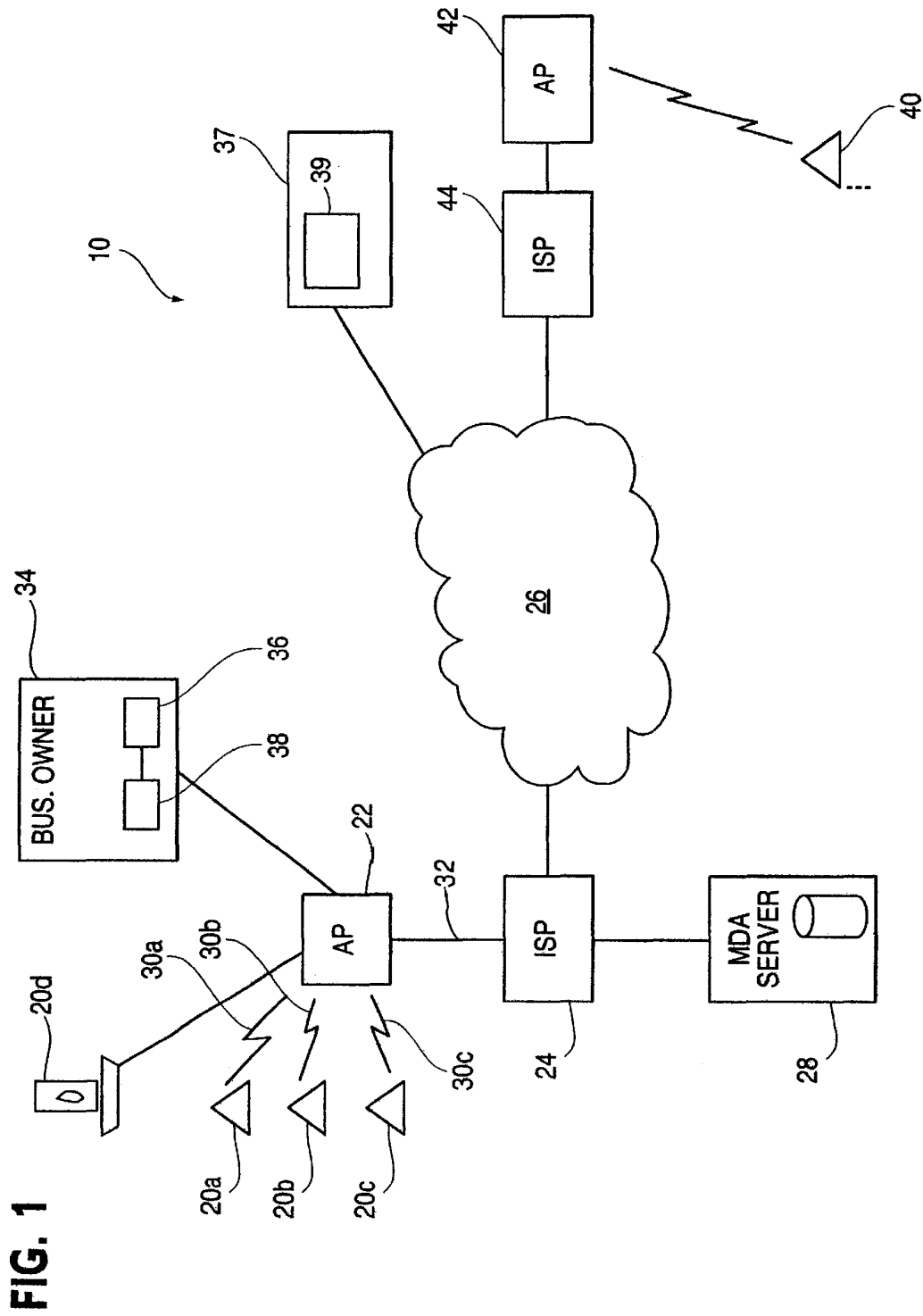
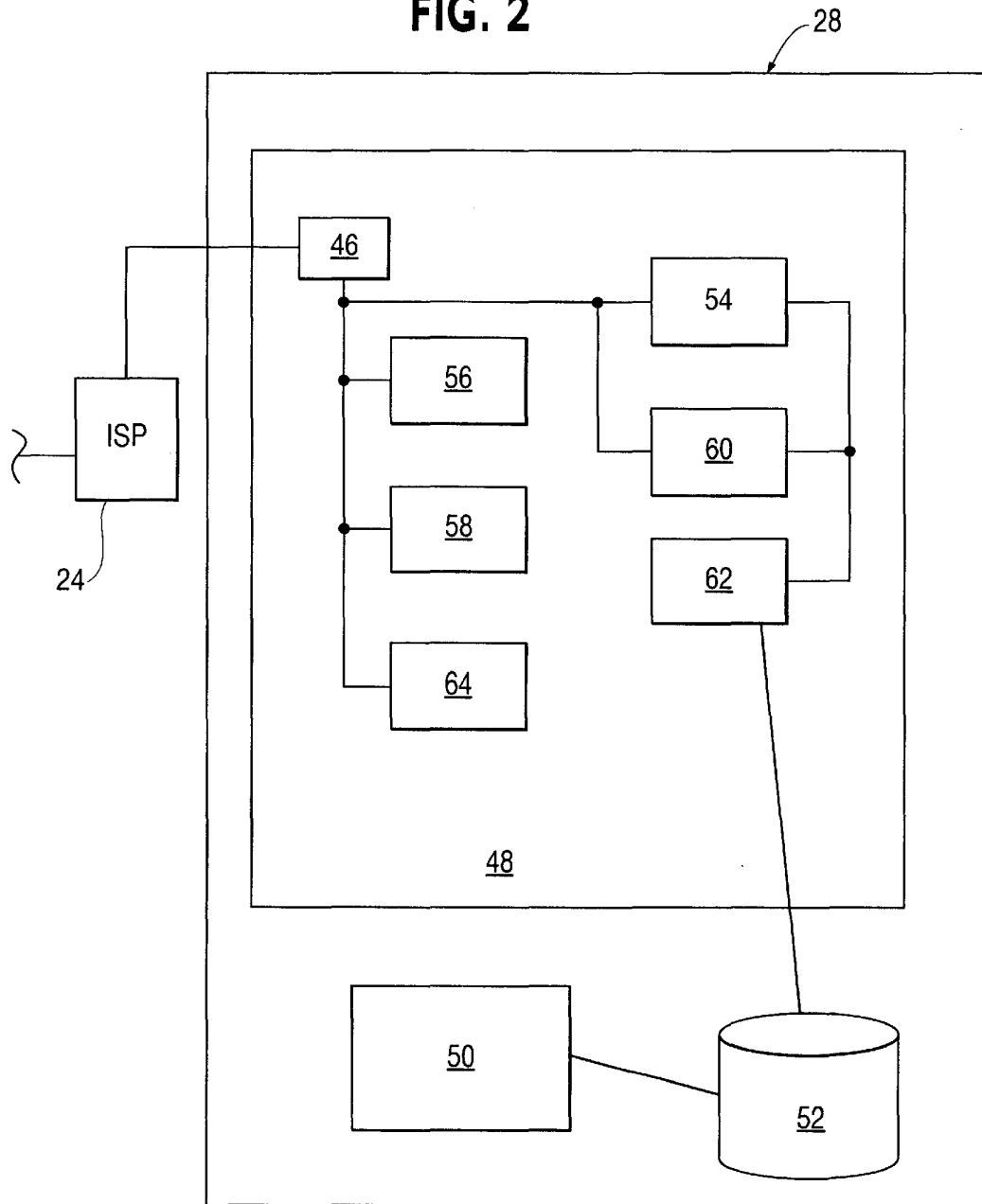


FIG. 1

FIG. 2



**FIG. 3**

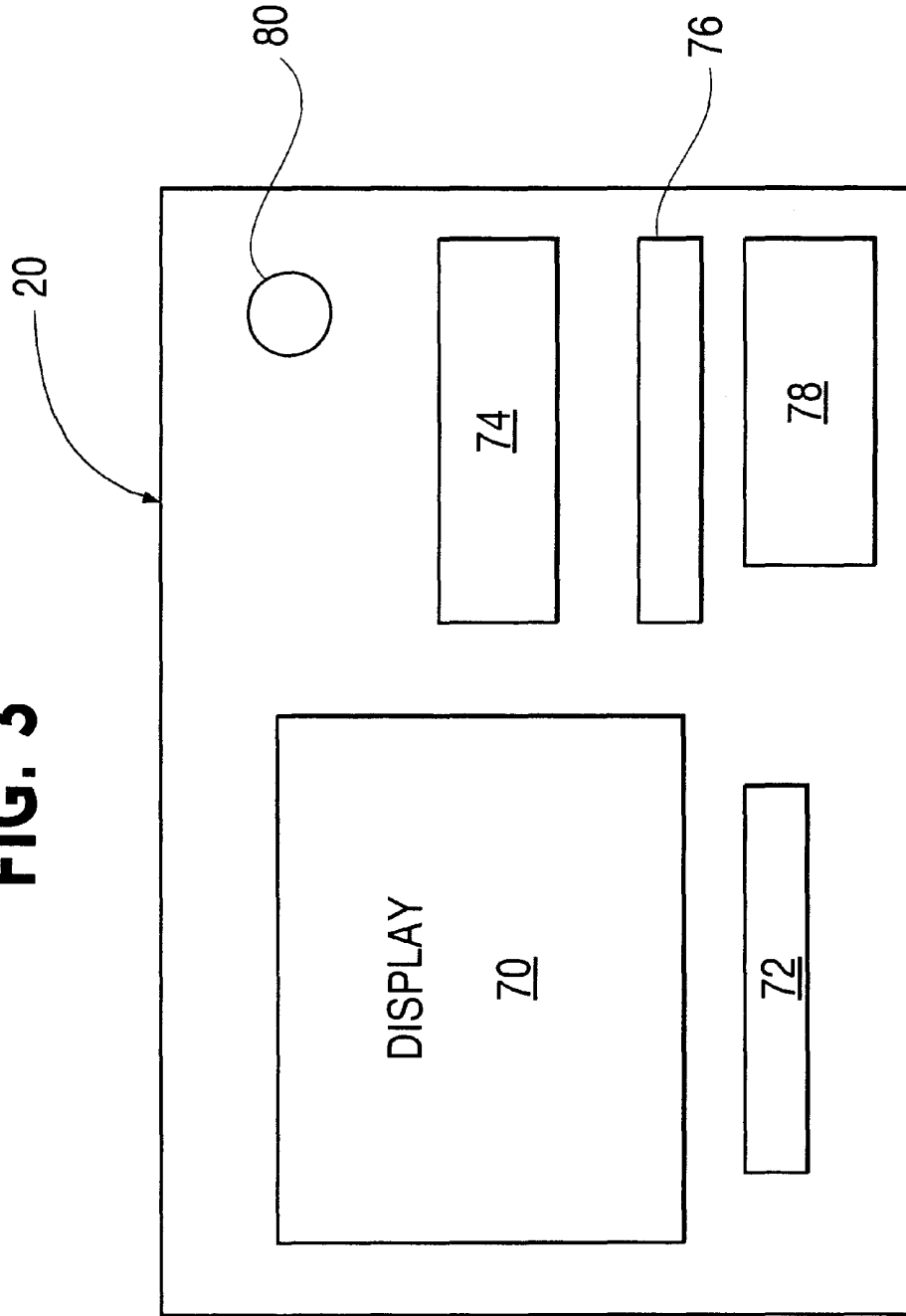
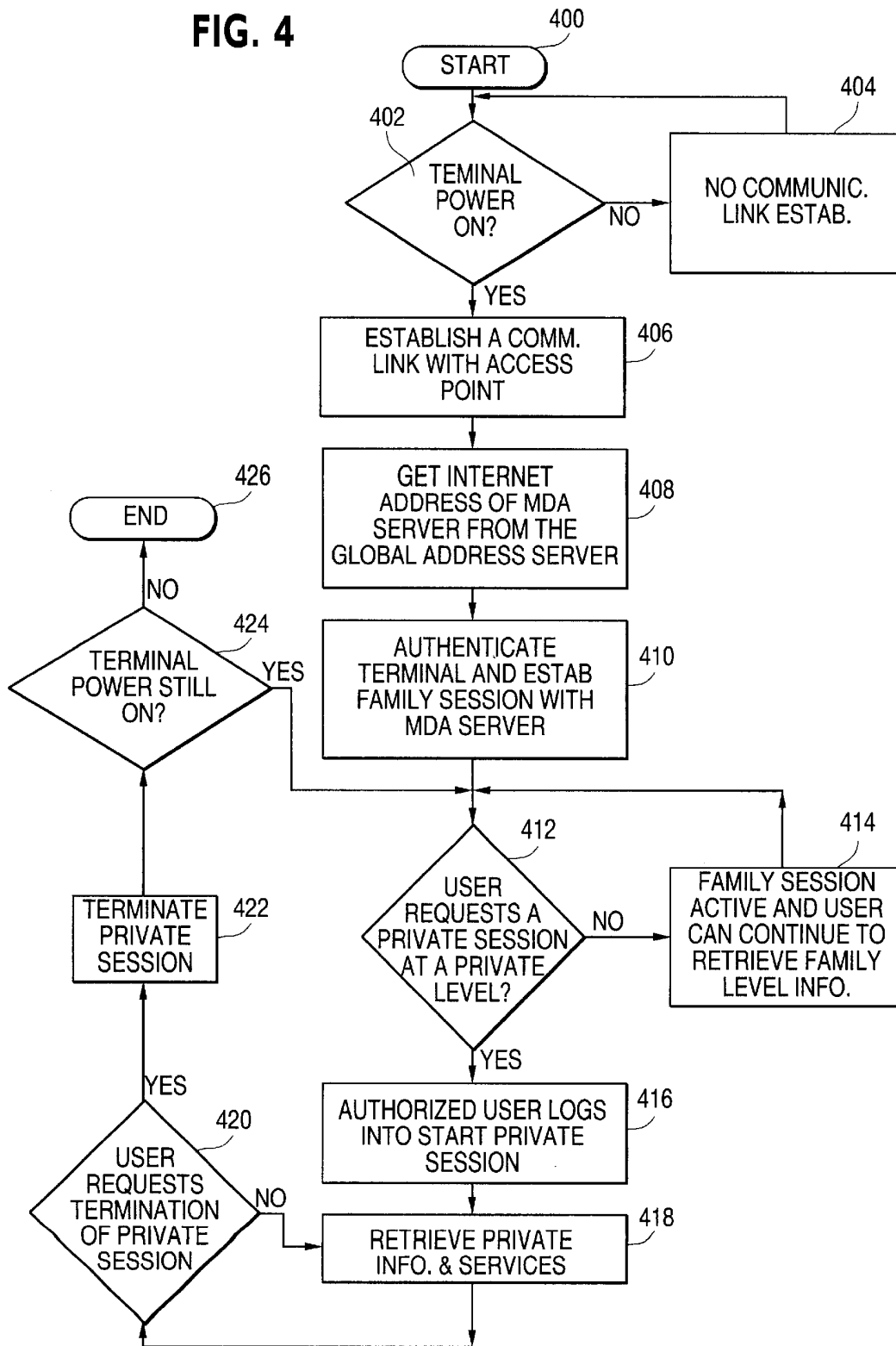


FIG. 4



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