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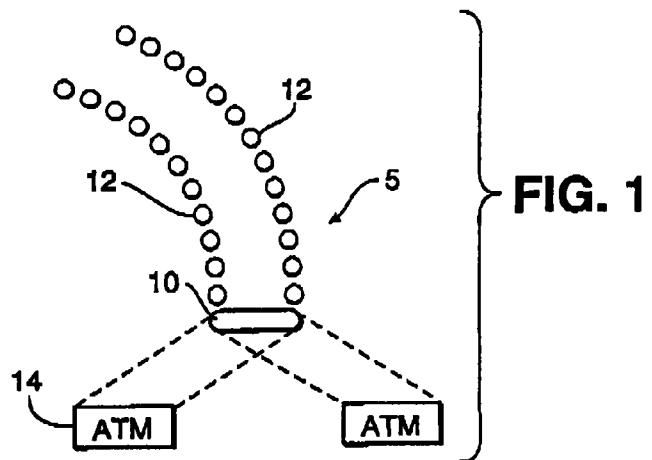
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(54) Personnel guidance and location control system

(57) A personnel waiting guidance and control system for controlling and guiding a group of individuals in a selected path to a waiting point and then to an activity in advance of that waiting point, as for example, a group of individuals waiting in a line to use a bank automated teller machine. The personnel waiting guidance and control system comprises an elongate member defining a waiting position for a head of a line of people waiting to use the activity such as the automated teller machine.

A group of individual discrete small elements such as circular elements, ovals, or the like, are located and extend from the ends of the elongate member to define a path for the group of individuals waiting for the selected activity. A fastening means is associated with the elongate member and with the discrete small individual members for securing each of these members to a ground surface.



Description**BACKGROUND OF THE INVENTION****1. Field of the Invention:**

This invention relates in general to certain new and useful improvements in a personnel waiting guidance and control system for guiding a group of individuals in a controlled manner and through a selected path to a particular activity.

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2. Brief Description Of Related Art.

Personnel guidance and control systems have long been used in a variety of activities for controlling the path of movement of a group of individuals to an activity. As a simple example, these guidance and control systems have been used for controlling a group of people waiting for one or more tellers in a banking institution or otherwise a group of people waiting to use a series of one or more automated teller machines. These systems form a selected path for entry in a controlled manner and in controlled numbers to the entertainment or amusement activity.

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Generally, all of the conventional guidance and control systems rely upon the use of movable standing poles mounted on heavy base plates and which contain cables such as chains, ropes or the like thereby defining a pathway for the individuals. The other forms of personnel guidance and control systems rely upon lines painted on a ground surface, such as a pair of spaced apart lines, which define a guidance path to a particular activity.

Each of these commercially available guidance and control systems suffer from a number of drawbacks which somewhat limits their effectiveness. First of all, where the movable poles are employed and hold a flexible cable, personnel waiting in the lines or others either intent on theft or vandalism can mischievously move the poles with the guidance cables extending therethrough to another location. Secondly, when the poles and cables are located in an outside environment, they must be periodically removed and stored to prevent theft or vandalism, as for example, when the activity has closed. Thirdly, even at a daytime or lighted period, there are also incidents of theft and/or vandalism to either the poles or cables or both.

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In the case of painted markers on the ground surface, such as a pair of spaced apart path defining lines, after a period of time, the paint forming these lines becomes worn and must again be repainted. Moreover, if there should be a change of plans to redefine the waiting path, then it is necessary to remove the existed painted lines and repaint those path defining lines in a new position. These activities are both time consuming and expensive and furthermore require periodic maintenance.

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BRIEF SUMMARY OF THE INVENTION

A personnel waiting guidance and location control system for guiding a plurality of individuals into a line thereof and controlling movements of these individuals. The guidance and control system comprises at least one elongate member capable of being secured to a ground surface in a fixed location for defining a head of the line of the individuals and represents a waiting location for the individuals at the front end or head of the line.

The guidance and control system of the invention also comprises a plurality of small discrete members capable of being secured to a ground surface in fixed locations relative to the elongate member and preferably extending from regions in proximity to the ends of the elongate member to define a path of movement for the individuals waiting in a line.

A fastening means is associated with the underside of the elongate member for securing the same to a ground surface. In addition, other fastening means are associated with the underside of each of the small discrete members for securing these discrete members to a ground surface.

In accordance with the above-identified construction, the elongate members and the discrete members form a guidance path for guiding a group of individuals to a head of a line and which is, in turn, represented by the elongate member. Moreover, the various components are removably secured to the ground surface, as hereinafter described, so that they can be removed and relocated, as desired.

In addition to the foregoing, both the elongate member and the discrete small members may have colored or reflective surfaces or sections thereof on their upper surface to further aid in guiding a path of movement of a group of individuals.

The fastening means associated with the elongate member and the small discrete members may adopt any of a number of suitable forms. One of these forms may be an adhesive means secured to the underside of the elongate member and the small discrete members and covered by a releasable protective strip, or large gauged screws secured to the underside of each of these members. The screws, in effect, engage the tuft and the backing of a carpet and securely holds the members in a fixed but removable position.

BRIEF DESCRIPTION OF THE DRAWINGS

Having thus described the invention in general terms, reference will now be made to the accompanying drawings in which:

Figure 1 is a top plan view showing the personnel waiting guidance and control system constructed in accordance with and embodying the present invention;

Figure 2 is a side elevational view of the elongate member forming part of the personnel waiting guidance and control system of the present invention; Figure 3 is a side elevational view of one form of discrete small member forming part of the personnel waiting guidance and control system of the present invention; Figure 4 is a top plan view of the one form of the elongate member forming part of the guidance and control system of the present invention; Figure 5 is a top plan view of one form of discrete small member forming part of the personnel guidance and control system; Figure 6 is a sectional view taken through the discrete small member forming part of the personnel guidance and control system and showing a screw fastening means thereon; Figure 7 is a vertical sectional view, somewhat similar to Figure 6, and showing the small discrete member forming part of the personnel guidance and control system with an adhesive securing means thereon; Figure 8 is a vertical sectional view, somewhat similar to Figures 6 and 7, and showing the small discrete member forming part of the personnel guidance and control system with a spring type securing means; Figure 9 is a top plan view of a slightly modified form of the elongate member forming part of the personnel waiting guidance and control system of the present invention; Figure 10 is a top plan view of a modified form of small discrete member forming part of the personnel guidance and control system of the present invention; and Figure 11 is a top plan view showing a further modified form of small discrete member forming part of the personnel guidance and control system of the present invention.

DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS

Referring now in more detail and by reference characters to the drawings which illustrate a preferred embodiment of the present invention, S designates a personnel guidance and control system comprised primarily of an elongate member and referred to as a "head of the line" member 10 and a group of small discrete path defining members 12.

The elongate member 10 and the path defining discrete members 12 are preferably located in a particular arrangement to define a path of movement of a group of individuals in a waiting area so that each of the individuals may then advance to a selected activity.

In accordance with the present invention, and merely for the purposes of illustrating the present invention, the personnel waiting guidance and control system

shows the location of the elongate member 10 and the small discrete members 12 forming a waiting line to one or more automated teller machines 14. However, it should be understood that the use of the personnel guidance and control system in connection with the automated teller system designated as "ATM" is only for purposes of illustrating the principles of the invention.

The elongate member 10 may have imprinted on its upper surface or otherwise applied to the upper surface, certain indicia 16 thereon for providing instructions to the group of individuals. As a simple example, the indicia 16 on the elongate member 10 may read "Wait Here" or "next", or other similar words which define a location in which individuals at the head of a line are requested to wait.

The holding of a line of individuals at a pre-selected distance away from the automated teller machine will also allow any security camera associated with that teller system to properly scan the line of individuals waiting to use the machine. Thus, if a security problem should arise and which can be observed by the camera system or if there is another problem in the line of individuals, that is scanned by the camera system, a potential intervening action may be taken.

In the embodiment of the invention as illustrated, the elongate member 10 has somewhat of an inverted dish-shaped construction and is formed on its underside with an angular downwardly facing rim 18 and a recessed bottom wall 20. This construction renders the elongate member 10 lightweight to the elongate member without materially affecting its structural properties. Moreover, the recessed bottom wall also, in certain embodiments, allows for a convenient stacking and nesting of the elongate members for purposes of shipping and storage.

The small discrete members 12 forming part of the personnel guidance and control system of the invention are circular in shape, as shown in the top plan view thereof. Moreover, each of the small discrete members 12 have recessed bottom walls, such that they form an annular downward facing rim 22 and a recessed bottom 24, all in the manner as best illustrated in Figure 6 of the drawings.

In accordance with the present invention, and particularly by reference to Figure 1, it can be seen that the elongate member 10 and the small discrete members 12 can be located in a desired arrangement in order to achieve a guidance path and a head of a line position for a group of individuals. One of the important aspects of the present invention is that this personnel guidance and control system is not readily subjected to damage or theft and can be relatively fixedly secured to a ground surface, but yet removable from location in another location.

In one embodiment of the present invention, the elongate member 10 is provided with a plurality (a pair as shown) of spaced apart screws 30 which may be inserted into a ground surface or otherwise into a wooden floor or other material. Moreover, the screws

allow for fastening fitting within a carpet for retentive securement thereto. In this case, the screws have a fairly coarse thread 32 thereon such that the threads only allow a minimal number of turns of the screw.

It is also possible to secure small discrete members to a ground surface, as for example, by means of an adhesive securement or otherwise by means of screws. Thereafter, the ends of an elongate member can be extended between the two small discrete members and mounted on the upper surfaces thereof. In this case, the elongate member will be secured to the upper surfaces of the small discrete members typically by an adhesive means.

Figure 6 more fully illustrates a single screw molded into each of the small discrete path defining members 12. Again, this screw 40 has a large diameter thread which is relatively coarse and only permits a limited number of turns, much in the same manner as the screws 30, in the elongate member 10. Thus, the small discrete path defining members 12 may also be secured to any of the surfaces in the same manner as the elongate member 10.

Figure 7 illustrates a modified form of small discrete path defining member 40 having an adhesive strip 46 on the downwardly presented rim thereof. Moreover, the adhesive strip 46 may be covered with a releasable and removable releasable protective backing 48, also as best shown in Figure 7 of the drawings.

It is also possible to fill the downwardly facing cavity of the small discrete path defining member party with a foam-like adhesive or other adhesive material. One such material is an acrylic foam tape often referred to as a Very High Bond Tape offered by the 3M Company. This material will effectively fill the cavity and bond the small discrete members to a floor surface. It should be understood that the elongate member 10 could also be provided with adhesive strips on its downwardly facing rim 18.

Figure 8 illustrates another modified form of small discrete path defining member 50 which has somewhat of a semi-hemispherical or arcuate upper surface 52 and a recessed bottom wall 58 and defining a circular downwardly facing lower rim 56. Secured to the interior accurately shaped wall 58 and extending downwardly therefrom is another modified form of fastening means such as a spring-type fastening means, including a coil spring 54. This spring 54 acts much in the same manner as the screw 40 and permits threading into a pile fabric rug or carpet, merely a few turns and without destroying or otherwise damaging the fabric upon removal thereof.

Figure 9 illustrates a slightly modified form of elongate member 60 comprised of an elongate body 62, quite similar to the elongate member 10. Moreover, the elongate member 60 is provided on one of its surfaces with a plurality of outwardly extending projections 64 and each of which may have arrows or other indicia 66 on the upper surface thereof.

The small discrete members may also have indicia

on their upper surface, as for example, as in a modified form of small discrete member 70, more fully illustrated in Figure 10 of the drawings. In this case, the small discrete member has on its upper separate surface 72 an arrow 74, similar to those used in the elongate member 60.

Figure 11 illustrates another modified form of small discrete member 76 which forms part of the system of the invention and includes a disc-shaped cap 78 with another form of indicia 80 on the upper surface thereof. The indicia 80 as shown in Figure 11 appears in the form of a small design.

Figure 12 illustrates a further form of path indicating member 84 which is in the shape of an arrow as shown. This arrow-shaped member 84 may be comprised of a plurality of light emitting diodes 86. These diodes 86 would also be located in the shape of an arrow in the embodiment of the invention as shown in Figure 12.

The exact means for lighting these light emitting diodes 86 is not shown, but would clearly include a conventional switching circuit (not shown) and a source of battery power (not shown) mounted on the underside thereof. Inasmuch as the electronics in the power supply associated with these light emitting diodes is so conventional in construction, such circuit has not been illustrated nor described in any further detail herein.

It should also be understood that the discrete path forming member 80 does not necessarily have to be used with an elongate member 10 as such. In this case, the discrete path defining member 80 could be used an a road surface to indicate a path of the road or a path toward the road or the like.

It should be further understood in connection with the present invention that three forms of fastening means described herein, such as the adhesive fastening means and the screw type fastening means and the spring type fastening means are only illustrative of the number of differing types of fastening means which may be used in the present invention.

Claims

1. An improvement in personnel guidance and location control systems for guiding a plurality of individual through a line and to an activity beyond the end of that line and which relies upon at least one elongate member at the end of the line to define a head of a line position and a plurality of rows of discrete elements on the ground surface to define a path of movement for a line of individuals, said improvement comprising:
 - a) at least one relatively rigid elongate member secured to a ground surface at the head of a line position and representing the waiting location for individuals at the front end of the line;
 - b) plurality of small discrete rigid members capable of being secured to an upper portion of

a ground surface in a fixed location relative to the elongate member and extending from regions in proximity to opposite ends of the elongate member to thereby define a path of movement for the line of individuals; 5

c) fastening means associated with an underside of said elongate member for securing same to the ground surface; and 10

d) fastening means associated with an undersigned of each of said small discrete members for securing same to the ground surface, whereby the elongate member and small discrete members can be secured to the ground surface in a desired pattern to enable the orderly and controlled movement of a group of individuals into one or more lines of same to a destination. 15

2. The improvement in personnel guidance and location control systems of Claim 1 further characterized in that indicia is provided on the upper surface of the elongate member. 20

3. The improvement in personnel guidance and location control systems of Claim 1 that the indicia is one or more words. 25

4. The improvement personnel guidance and location control systems of claim 2 further characterized in that indicia is also provided on the upper surface of said plurality of small discrete members. 30

5. The improvement in personnel guidance and location control systems of claim 1 further characterized in that the fastening means associated with the underside of the elongate member and with the underside of the small discrete members comprises a downwardly projecting threaded member. 35

6. The improvement in personnel guidance and location control systems of claim 1 further characterized in that the fastening means associated with the underside of the elongate member and the underside of the small discrete members is a coiled spring section. 40

7. The improvement in personnel guidance and location control systems of Claim 1 further characterized in that the fastening means associated with the underside of the elongate member and the fastening means associated with the underside of the small discrete members are adhesive strips. 45

8. A method for guiding and locating a plurality of individuals in a line thereof to a certain activity, said method comprising: 50

a) securing at least one elongate identification 55

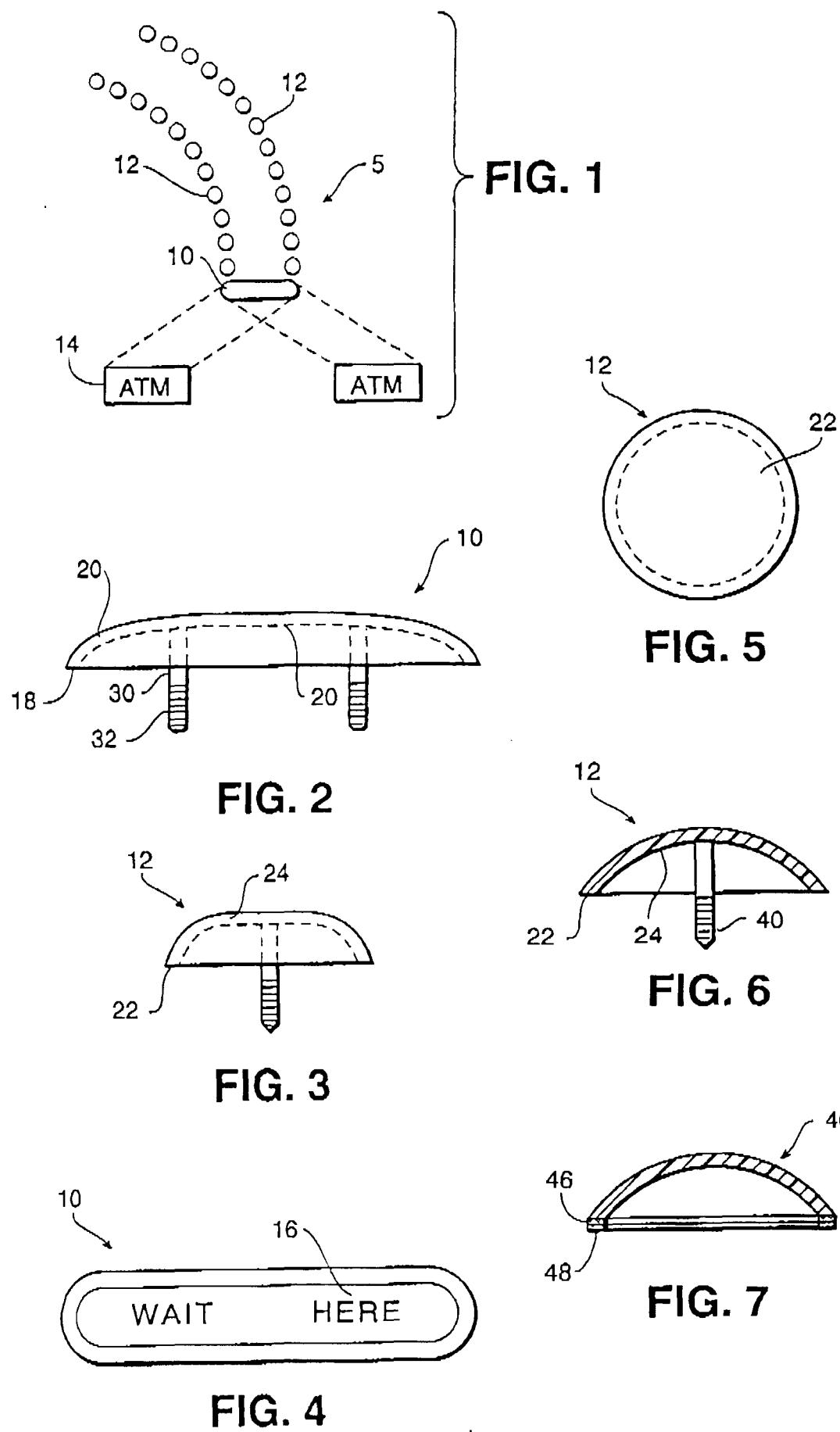
member in a fixed location defining an end of a line of the individuals and representing a waiting location for the individuals at the front end off the line;

b) securing a plurality of small discrete members to a ground surface in a fixed location and relative to the elongate member and extending from regions in proximity to opposite ends of the elongate member thereby defining a path of movement for the line of individuals; and

c) securing the small discrete members and the elongate member in such manner and in a pattern to enable the orderly and controlled movement of a group of individuals in the line to one or more activities.

9. The method of Claim 8 further characterized in that the method comprises securing at least the small discrete members to the ground surface by twisting a screw-like element on the underside hereof into the ground surface. 20

10. The method of Claim 8 further characterized in that the method comprises removing a releasable tape on the underside of at least the small discrete members to expose an adhesive coating and thereby enabling adherement of the adhesive coating to the ground surface. 25



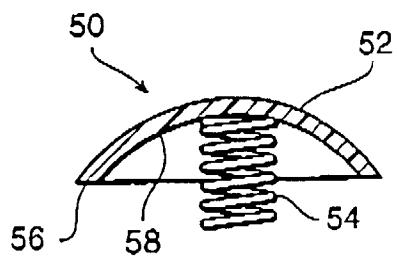


FIG. 8

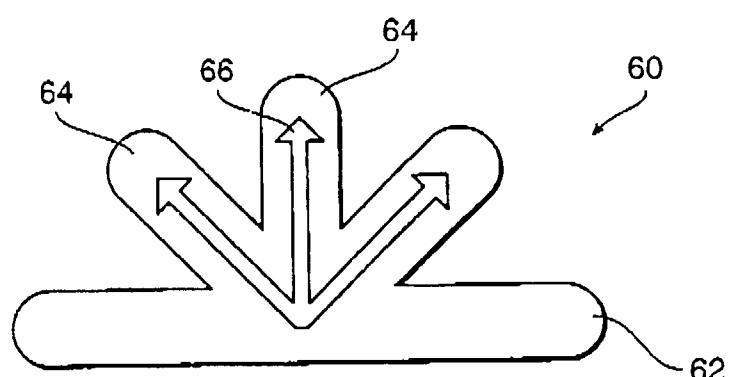


FIG. 9

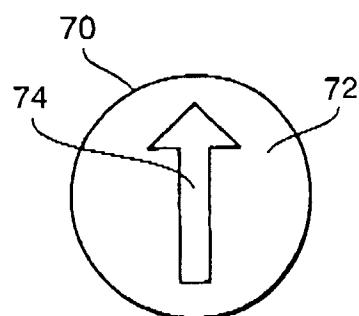


FIG. 10

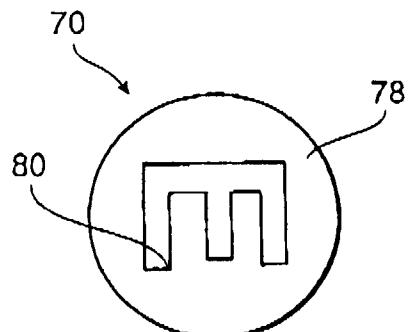


FIG. 11

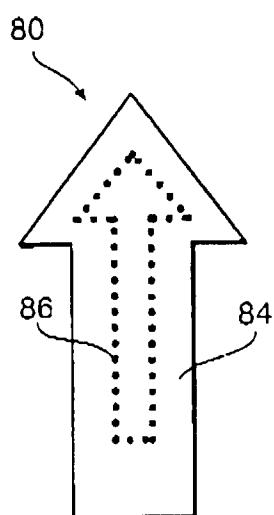


FIG. 12