

Feb. 14, 1961

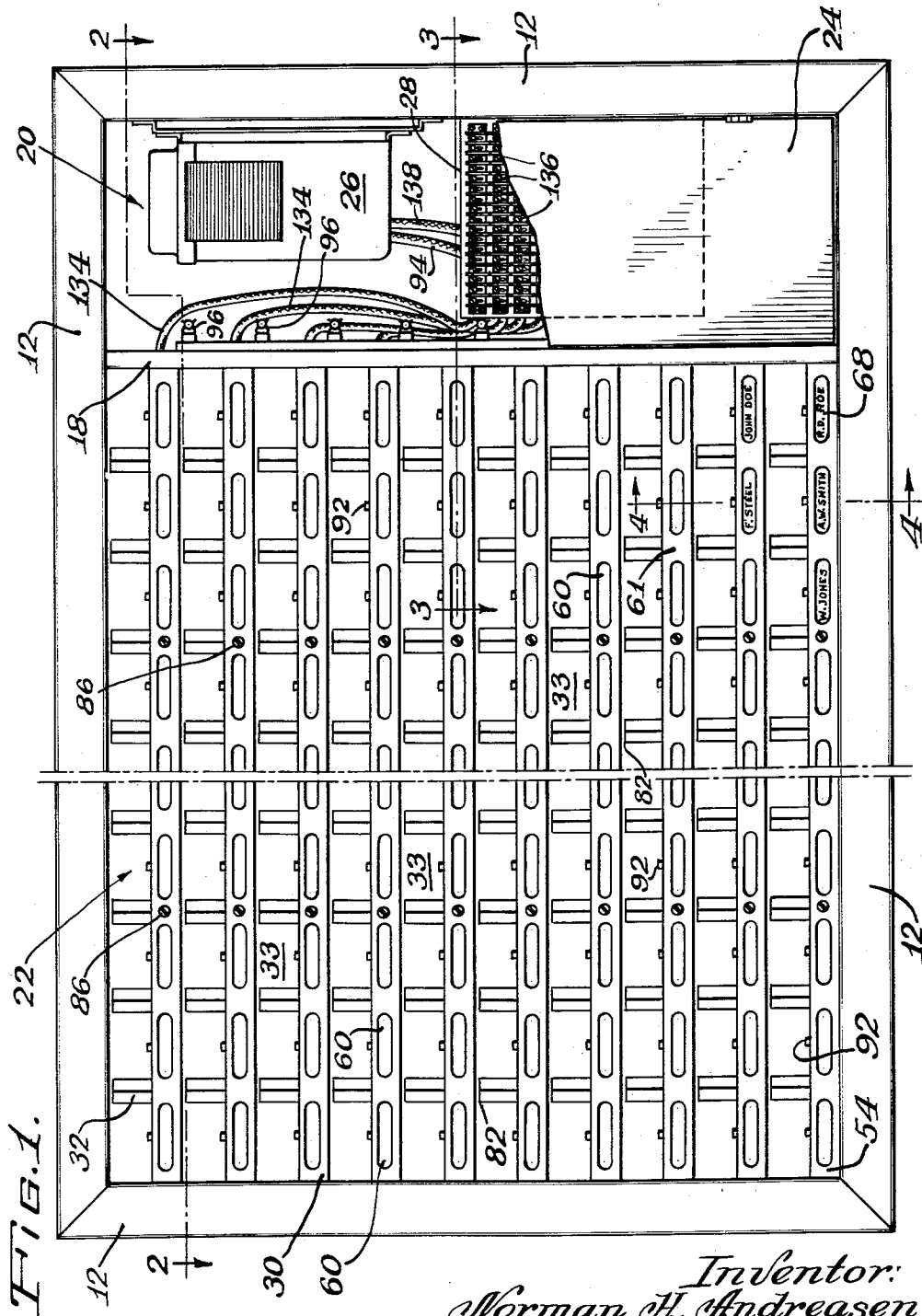
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2,971,806

IN-AND-OUT PAGER CABINET

Filed July 18, 1957

5 Sheets-Sheet 1



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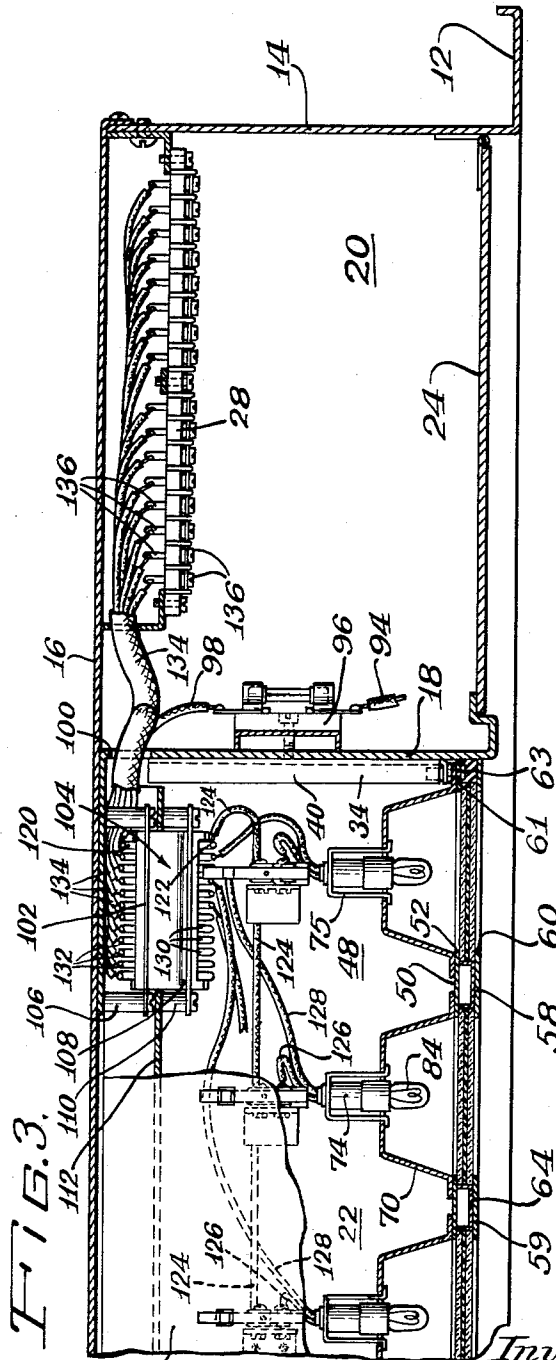
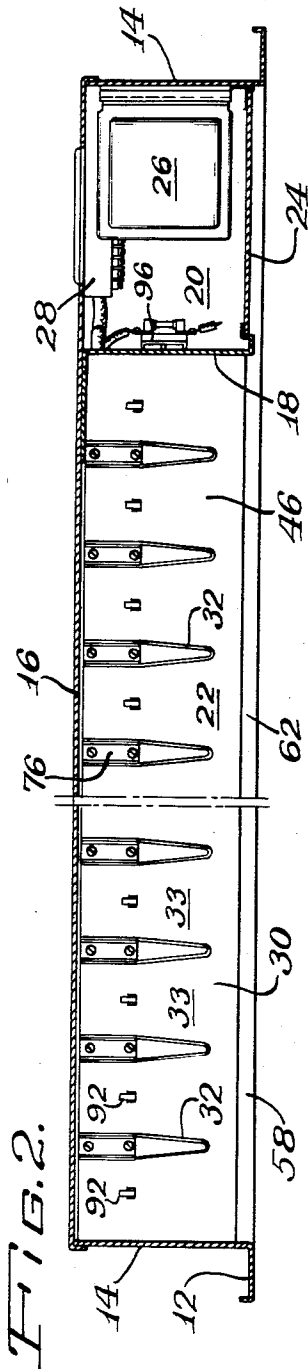
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IN-AND-OUT PAGER CABINET

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5 Sheets-Sheet 2



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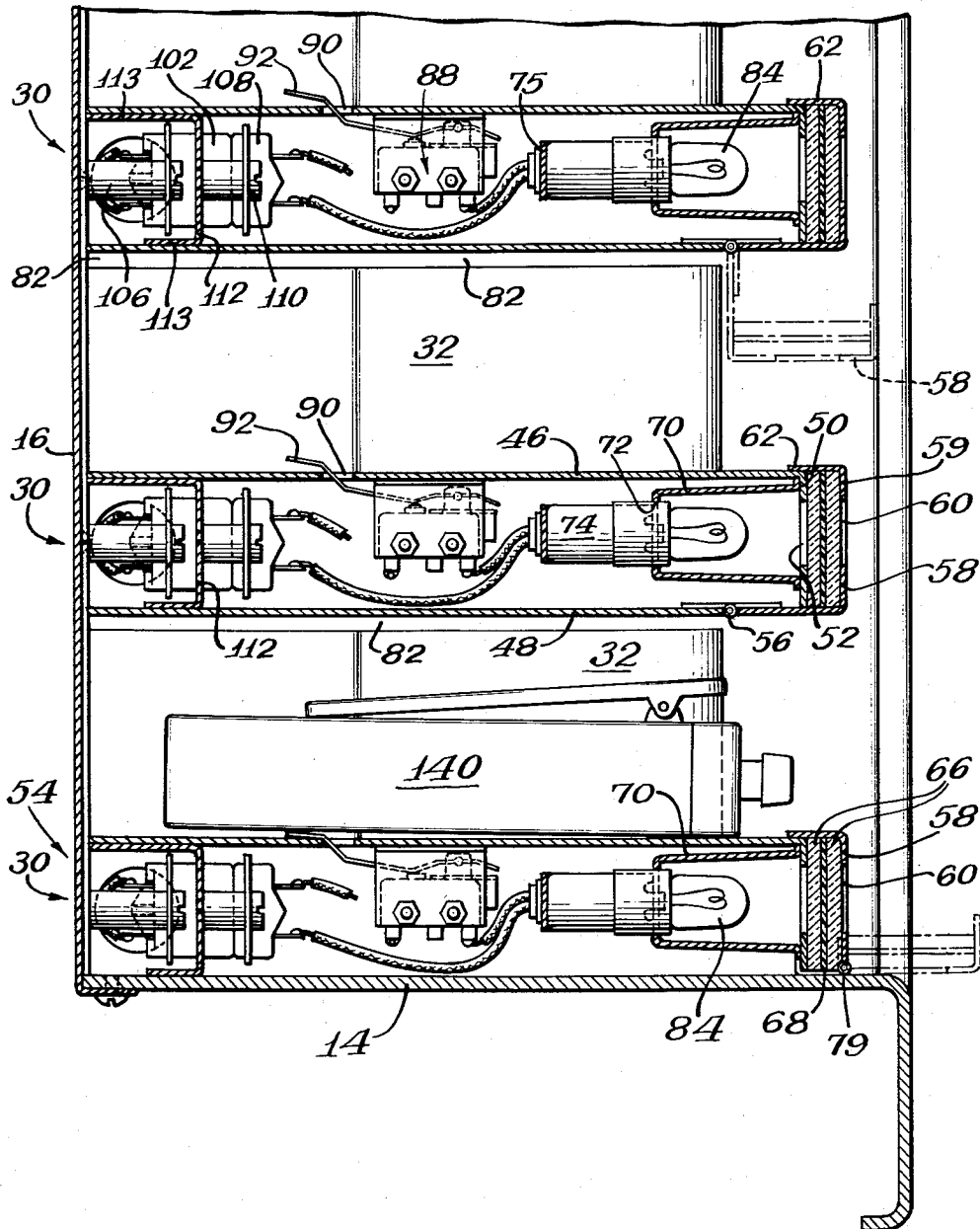
2,971,806

IN-AND-OUT PAGER CABINET

Filed July 18, 1957

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FIG. 4.



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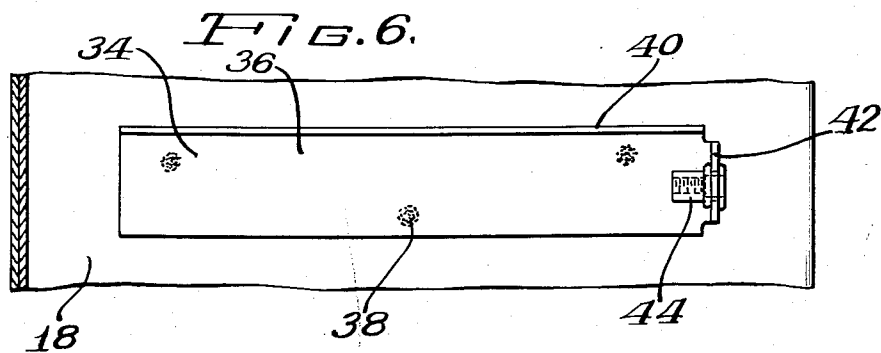
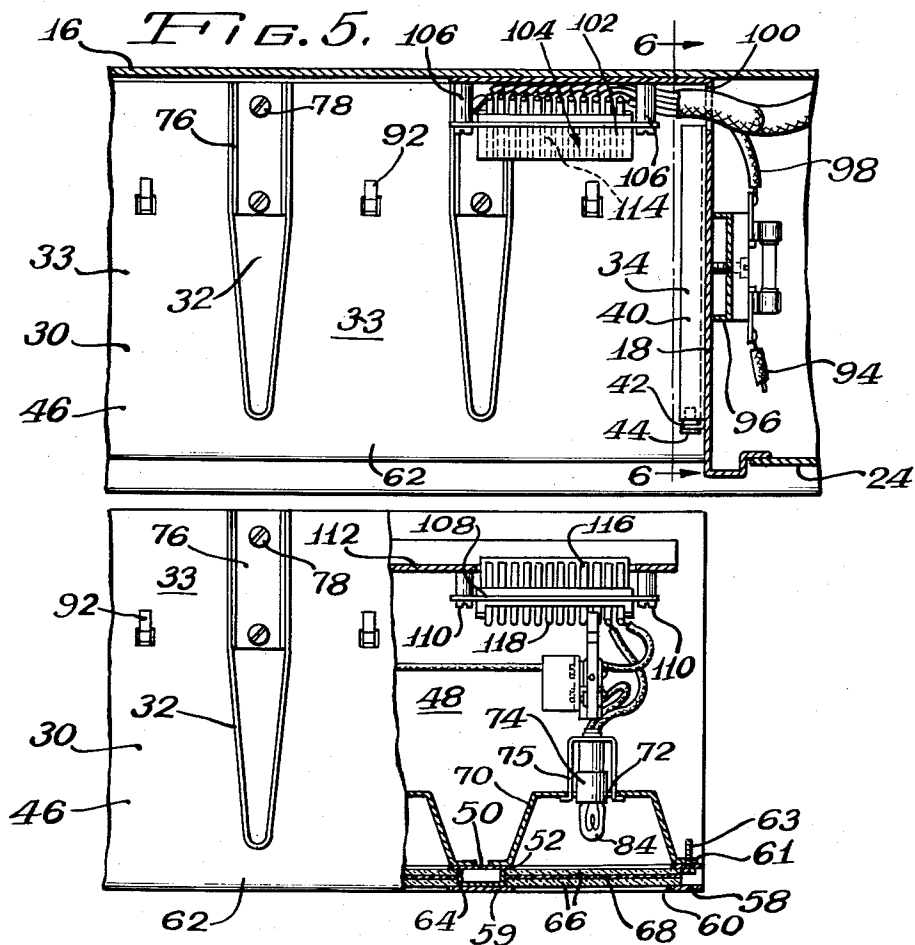
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5 Sheets-Sheet 4



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5 Sheets-Sheet 5

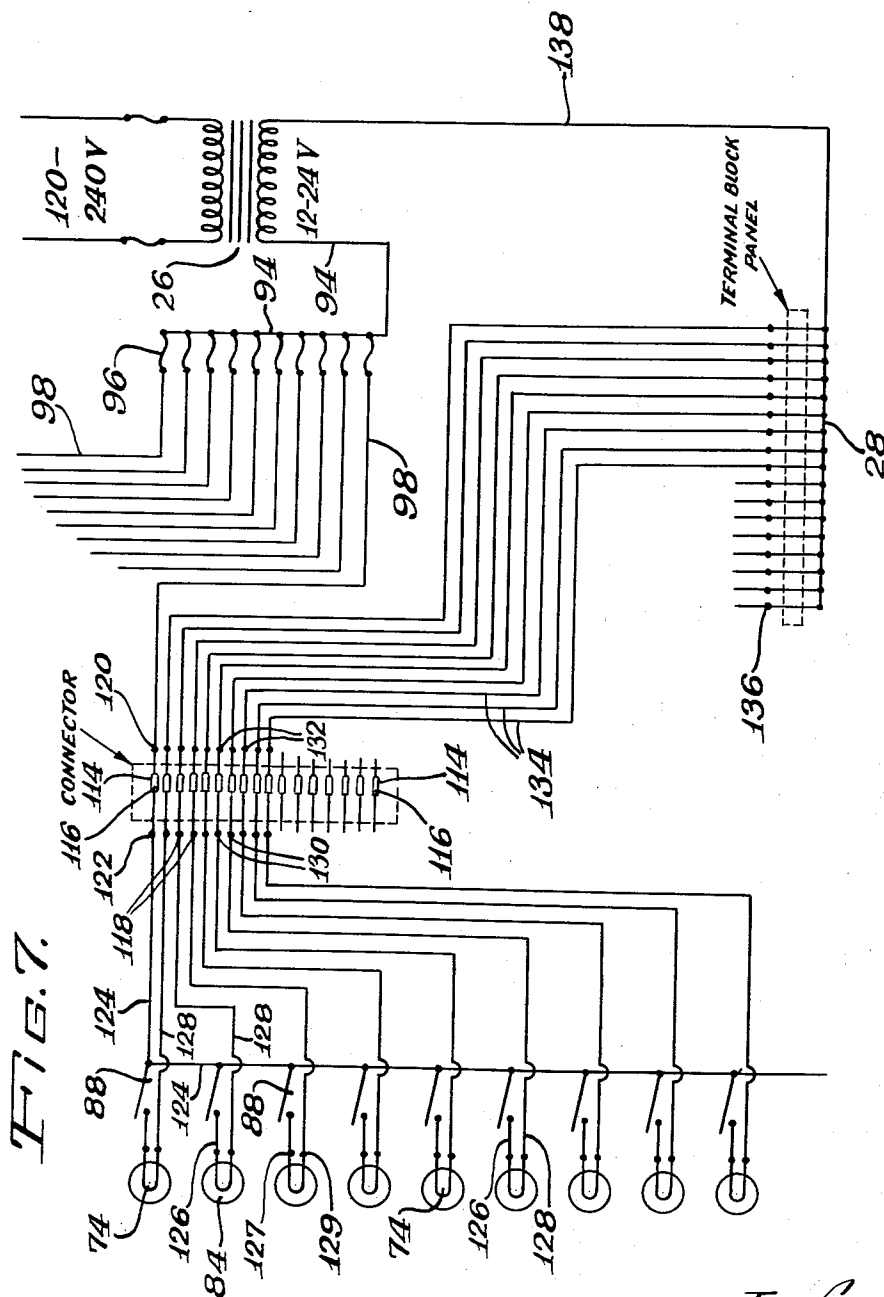


FIG. 7.

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IN-AND-OUT PAGER CABINET

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Filed July 18, 1957, Ser. No. 672,818

6 Claims. (Cl. 312-223)

My invention relates to an in-and-out pager cabinet or a cabinet for the storage of pocket pagers which likewise indicate the presence or absence of the individuals on call through the paging system.

Annunciator systems have been commonly used in hospitals, industrial plants, large offices and the like for locating particular persons and delivering messages to them. The name is paged throughout the hospital or plant by means of a loud speaker system.

A vast improvement has been made in paging systems by the development of pocket pagers, small radio receivers, generally transistorized, which a doctor, for instance, carries in his pocket and through which he receives messages from a central transmitter. Each receiver is assigned a different wave length so that calls can be made to the individual receivers.

The control of these units, however, has presented a problem in that, for lack of a suitable storage place for the units, the users often carry them home with them and forget to bring them the following day. Otherwise, they are stored in drawers where they are subject to damage or where there might be a time delay in finding the particular receiver assigned to a certain person.

My invention is directed to the provision of a storage receptacle for these paging units which at the same time provides an indication as to whether the user is or is not in the place of business, and where the user will find it easy to store the receiver as he leaves the building and pick it up again when he enters. It is an attractive and efficient unit and easily provided in any new or existing installation.

Other objects and advantages will be apparent from the following description and drawings, of which:

Fig. 1 is a front elevation broken away in part and illustrating a pager cabinet embodying my invention;

Fig. 2 is a section through the cabinet of Fig. 1, taken substantially along the line 2-2 looking in the direction of the arrows;

Fig. 3 is an enlarged section taken substantially along the line 3-3 of Fig. 1 looking in the direction of the arrows;

Fig. 4 is an enlarged section taken substantially along the line 4-4 of Fig. 1 looking in the direction of the arrows;

Fig. 5 is an enlarged view of the central portion of Fig. 3 showing the shelf detached from the frame;

Fig. 6 is a side elevation of the shelf mounting bracket; and

Fig. 7 is a wiring diagram.

The storage cabinet of my invention as illustrated here is a unit adapted to be set into a wall. It includes an open, shallow, box-like frame 10 having a rim 12 about the open face thereof. The frame members extend backwardly into the wall to constitute the side, top and bottom walls 14 of the cabinet. A back panel 16 secured to the frame constitutes the back of the cabinet. A vertical internal wall 18 subdivides the cabinet into a closed terminal area

20 and an open faced pager receiver area 22. The area 20 is closed by a hinged door 24. The terminal area includes a transformer 26 secured in any appropriate fashion to the wall thereof, and a terminal block 28.

The receiver area 22 is subdivided by a plurality of horizontal shelves 30, each of which have secured thereto a plurality of partitions 32 extending upwardly therefrom so as to divide the shelf space on each shelf into a plurality of pockets 33. It will be noted that the partitions 32 do not extend quite to the shelf above them.

The shelves are carried on angle brackets 34 as illustrated in Fig. 6, which are angle-shaped members secured horizontally by one flange 36 as by spot welding 38 to the outside vertical wall 14 of the receiver area and to the internal wall 18 respectively. The other flange 40 of the bracket extends horizontally outward into the receiver area to serve as a shelf support. The front end of the bracket 34 includes a vertical ear 42 bent out at right angles to the flange 36 which has a threaded receptacle 44 therein by which the shelves may be fixed to the brackets 34.

The shelves are shown in Fig. 4. They include a top 46 and bottom 48 side of sheet metal. The top side is bent down at its front end 50 and has a plurality of window slots 52 formed therein. The bottom side, in all except the bottom-most shelf 54, does not extend as far to the front as the top side and has hinges 56 secured along its front edge. The hinge connects to the bottom side 48 a name panel 58. The name panel is a generally U-shaped member connected at one edge, as stated, to the hinge 56, having a plurality of windows 60 in the base 59 thereof and having an upper edge 62 latching on the upper surface of the top side 46. The windows 60 are situated to align with the windows 52 in the front of the top side 46. Between the windows 60, channel members 64 are secured transversely of the length of the name panel 58 so as to divide it into compartments. The name panel is adapted to receive a sandwich of two plates of glass 66 with a name card 68 therebetween, the spacing between the base 59 of the name panel and the front 50 of the top side being adequate to accommodate the sandwich. The front face 50 of the top side of the shelves is bored at its ends as at 61, and screws 63 extend there-through and into the threaded receptacles 44 of the shelf bracket 34 to secure the shelf to the brackets. It will be appreciated that the name panel 58 in its normal, full-line position will cover these screws and mask the means of attachment.

Rearwardly of the windows 52, shallow wide reflector housings 70 are secured to the front 50 of the top side. The reflector housings have a bore 72 in the base thereof and lamp receptacles 74 are secured therein by clips 75.

The partitions 32 are V-shaped sheet metal members having a U-shaped bracket 76 attached across the sides of the partitions to the base end thereof by means of which the partitions are secured to the top side 46 of the shelves as by screws 78 or the like. They are spaced on the shelves between the windows 52 and 60 so as to associate a name with each pocket 33 between the partitions. It will be noted that the partitions not only terminate short of the shelves above as at 82, but likewise terminate inwardly of hinges 46 so as to permit the name panel to be dropped down as shown by the dotted lines in Fig. 4 (upper shelf) for the purpose either of changing the name associated with any particular compartment of that shelf or for changing a dead lamp bulb 84 in the receptacle 74.

Screws 86 (Fig. 1) engaging the front face 50 of the top shelf side 46 will be employed to hold the name panels in their normal position as illustrated in the full lines in Fig. 4.

In the case of the name panel associated with the bot-

tom shelf 54 (Fig. 4), the shelf lacks the bottom side 48 since it rests against the bottom wall 14 of the frame, and therefore the hinging 79 is done at the front and bottom edge of the name panel 58. The recessed hinging as at 56 would be inoperative in connection with the bottom shelf 54.

Each compartment has associated therewith a micro-switch 88 which is spring biased to closure. The micro-switch is secured to the under surface of the top side 46 of the shelves 30. A hole 90 is formed in the top side of the shelf in each compartment and a switch finger 92 which operates the microswitch 88 extends into the compartment and normally into the compartment space above the top side 46 of the shelf as illustrated in the upper two shelves of Fig. 4.

The structure illustrated is shown as having ten shelves, each with sixteen pockets on it, giving a total of one hundred-sixty pockets.

It will, of course, be understood that my cabinet may include any number of shelves and any number of pockets on each shelf to fit any space and to accommodate any desired number of pagers. A lead 94 extends from the secondary of the transformer to ten fuse blocks 96 mounted on the inside of the internal wall 18. The fuses are connected together in parallel and each fuse is associated with the shelf opposite it on the other side of the internal wall 18.

In the wiring diagram, Fig. 7, only the wiring associated with a part of the pockets on one shelf is shown in full, but it will be understood that all shelves and all pockets are wired identically.

A conductor 98 extends from the other side of the fuse block through a bore 100 in the internal wall 18 to the base 102 of a commercially available multiple terminal connector 104 mounted by screws 106 to the back panel 16 of the frame. The connector also includes a plug element 108 secured as by screws 110 to a U-shaped strip 112 which spans the top and bottom sides 46 and 48 of each of the shelves 30 and is secured by its flanges to the sides at the back of the shelves. For a shelf having sixteen pockets on it, the connector will have seventeen terminals on the base, each of which is connected to a socket 114 of the connector. The plug 108 has as many prongs 116, aligned to be inserted in the sockets 114. The prongs 116, in turn, are connected to terminals 118 on the front face of the plug 108. Each of the shelves is equipped with an identical connector.

The conductors 98 extend from the several fuses 96 to one terminal 120 of the base 102 of each connector 104. The matching terminal 122 of the connector plugs 108 is connected in parallel to one side of each of the microswitches 88 of the shelf carrying the plug 108 by conductor 124. Leads 126 extend from the other side of each of the microswitches in the shelf to one side 127 of the light socket 74 associated with the microswitch. Conductors 128 extend from the other side 129 of the lamp socket 74 to the remaining sixteen terminals 130 of the connector plug. The matching terminals 132 of the connector base are connected by conductors 134 to the individual terminals 136 of the terminal block 28. The terminal block has as many terminals as there are total pockets in the cabinet and the conductors 134 connected to each of the conductors associated with each shelf return individually to the terminal block panel. All of the terminals on the terminal block panel are in turn connected to a wire 138 which returns to the secondary of the transformer 26.

The operation of my device will be readily understood from the foregoing description. For instance, a doctor will check into the hospital. The cabinet will be situated near the doctor's entrance. As he enters, he will pick up his pager 140 from the pocket identified as being his and bearing his name tag. Upon removal of the pager from its pocket, a circuit will be closed through the lamp 84 to illuminate the doctor's name and serve

notice that he has checked in. I contemplate that a similarly arranged panel bearing the names of the various doctors will be situated at the switchboard and that the closing of the switch 88 consequent upon the removal of the pager 140 will likewise indicate the presence of the doctor at that location. However, as I do not regard this as a part of my invention, it has not been illustrated.

Notification is thus provided that the doctor is present in the hospital and he may then be paged through the pager 140 which he carries with him.

When the doctor checks out of the hospital, he deposits his pager in its appropriate pocket, which opens the circuit to the lamp and gives notice that he is no longer available.

Should it be required to change the name associated with one of the pockets, the name panel 58 is dropped down to the position illustrated by the dotted lines in Fig. 4, the pieces of glass removed, the name changed and the name panel returned to its position. Should it be required to change a lamp in one of the windows, a rubber tube may be easily inserted through windows 52, the name panel being again dropped, to engage the bulb and remove it from its socket. A new lamp may be similarly installed. Should it be necessary to make repairs on the wiring circuits, the terminal block area is easily accessible through the door 24. If it is desired to work on the wiring associated with each of the shelves 30, either to make repairs or to connect or disconnect additional pockets, the shelves will be removed by dropping the name panel 58 and removing the screws 63. Following this, the shelves may be drawn out of the frame, the connector plug separating from the connector base.

It will be evident from the foregoing description that I have provided a novel and useful device for the organization and storage of pocket paging systems which accomplishes the double purpose not only of providing storage for the pagers but also of providing notice as to the presence or absence of the person assigned to any particular pager. It will likewise be evident from the foregoing description that my device may be made in any size to accommodate any number of pagers and likewise that the arrangement of parts may be varied to meet the circumstances. It should also be noted that, although I have described a cabinet which is designed for insertion into a wall, a free standing cabinet finished on all sides is logically within the purview of my invention. Other additions, alterations and modifications will undoubtedly suggest themselves in the practice of my invention and I, therefore, desire that my invention be regarded as being limited only as set forth in the following claims.

I claim:

1. An in-and-out pager cabinet for receiving pocket pagers comprising a frame, a shelf detachably mounted in said frame and providing a plurality of pager receiving positions, said shelf having a visible window therein associated with each of said positions, means including a normally closed switch and a lamp for illuminating each of said windows, switch actuating means associated with each of said illuminating means adapted to open the circuit through any of said illuminating means upon deposit of a pocket pager in the position associated with said illuminating means, a multiple circuit connector including a plug and a receptacle, said plug circuit connector including a plug and a receptacle, said plug being secured to said shelf and said receptacle being secured to said frame to effect a union of said plug and receptacle when said shelf is positioned within said frame, a circuit through one pair of terminals of said connector energizing said illuminating means in parallel and circuits connecting the other sides of said illuminating means separately to other terminals of said connector.

2. An in-and-out pager cabinet for receiving pocket pagers comprising a frame, a plurality of shelves mounted

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in said frame, each shelf providing a plurality of pager receiving positions and having a visible, illuminated window therein associated with each of said positions, means for illuminating each of said windows including a lamp and a normally closed switch, switch actuating means adapted, upon the deposit of a pocket pager in one of said positions, to open the switch associated with said position, shelf circuit means connecting one side of each of said illuminating means of each shelf in parallel, means connecting said shelf circuit means of each shelf in parallel to a source of power, a terminal block panel exterior to said frame, circuit means connecting the other sides of said illuminating means individually to terminals on said terminal block panel and circuit means connecting said terminals in parallel to the other side of said source of power.

3. An in-and-out pager cabinet for receiving pocket pagers comprising a frame, a plurality of shelves detachably mounted in said frame, upright dividers on each of said shelves dividing said shelves into a plurality of pager receiving pockets, said shelves having apertures in the top sides thereof in each of said pockets, a window in the outer edge of each of said shelves underlying each of said pockets, illuminating means within said shelves associated with each of said windows and comprising a lamp, a normally closed switch, and a switch actuating finger extending through said aperture and normally above said shelf, said finger being depressible by the deposit of a pocket pager in one of said pockets to break the circuit through the illuminating means of the window associated with that pocket, and circuit means connecting all of said illuminating means in parallel to a source of power.

4. An in-and-out pager cabinet for receiving pocket pagers comprising a frame, shelf brackets on opposite sides of said frame, a shelf providing a plurality of pager receiving positions adapted to be mounted to said brackets and having spaced top and bottom surfaces and a front edge having windows therein underlying each of said pager receiving positions, window illuminating means including a lamp socket contained between said top and bottom surfaces rearwardly of each of said windows and a normally closed switch having a switch actuating finger connected to each of said lamp sockets, said finger of said switch extending through the top surface of said shelf to stand thereabove in the position associated with said window, said finger being depressible by a pager deposited in said pocket to break the circuit to said lamp socket, a multiple circuit connector including a plug and a receptacle, said plug being contained between the top and bottom surfaces of said shelf adjacent the rear edge of said shelf and said receptacle being mounted

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to the back of said frame between the top and bottom surfaces of said shelf when said shelf is mounted to said brackets whereby said plug and said receptacle make electric contact when said shelf is mounted on said brackets within said frame, circuit means extending from a source of power through one pair of terminals of said connector to one side of each of said illuminating means in parallel, circuit means connecting the other side of said illuminating means individually through other terminals of said connector to an external parallel connection to the other side of said source of power.

5. An in-and-out pager cabinet for receiving pocket pagers comprising a frame, a plurality of shelves mounted in spaced relation within said frame, each shelf providing a plurality of pager receiving positions and including a spaced top and bottom side and a front edge, said front edges having windows therein associated with each of said pager receiving positions, means including a lamp and a switch for illuminating individually each of said windows and means responsive to the deposit of a pager in any of said positions to interrupt the illumination of the window associated with said position, a strip hingedly secured to the bottom side of some of said shelves on a line spaced rearwardly of the front edge of said shelf, said strip including a portion normally parallel to the front edge of said shelf and having windows therein aligned with the windows in the front edge of said shelf, said portion being spaced from the front edge of said shelf sufficiently to accommodate an identification tag between the window of said shelf edge and said portion, said portion being pivotable away from the front edge of said shelf, and means for securing said portion to said front edge.

6. The combination as set forth in claim 5, including vertical members secured to said shelves to define said pager receiving positions, said vertical members terminating outwardly short of said line of hinging.

References Cited in the file of this patent

UNITED STATES PATENTS

332,661	Knoebel	Dec. 15, 1885
337,798	Sweney	Mar. 9, 1886
348,227	Mayhew	Aug. 31, 1886
469,349	Kubler	Feb. 23, 1892
2,106,912	Herzberg	Feb. 1, 1938
2,122,145	Kear	June 28, 1938
2,138,894	Ware	Dec. 6, 1938
2,412,516	Kavanagh	Dec. 10, 1946
2,474,157	Needlman	June 21, 1949
2,554,223	Szabo	May 22, 1951
2,586,930	Florence	Feb. 26, 1952