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APPLIATUS FOR DISPLAYING INFORMATION, PARTICULARLY FOR EXHIBITING ADVERTISEMENTS

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APPARATUS FOR DISPLAYING INFORMATION, PARTICULARLY FOR EXHIBITING ADVERTISEMENTS
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ABSTRACT OF THE DISCLOSURE

An apparatus for displaying all types of information, particularly for exhibiting advertisements, wherein there are provided a plurality of display compartments having associated with each such display compartment an individual locking means. The locking means of each display compartment is controlled by an electric circuit means which, upon expiration of a minimum predetermined period of time of occupancy of each display compartment and upon insertion of a coin in the apparatus, opens that display compartment which has been used for the longest period. Further, the apparatus is equipped with indicating means which indicate when at least one display compartment is unoccupied and also when all of the display compartments are occupied.

BACKGROUND OF THE INVENTION

The present invention has reference to an improved apparatus for displaying information of the most varied type and form, particularly for exhibiting advertisements or the like, wherein the apparatus is coin-controlled and provided with a plurality of display compartments each adapted to receive an advertisement. It is to be specifically understood that the term "advertisement" as employed herein is used in its broadest sense, and therefore, is intended to encompass almost all types of subject matter and information, whether in worded or pictorial form, and generally can be considered broadly as any type of information which the exhibitor wishes to communicate to persons viewing the apparatus.

Now, it is well known to provide a so-called bulletin board or notice board in industrial buildings, warehouses, office buildings, administration buildings and so forth at a central location which is passed by a great many people for the purpose of displaying all kinds of advertisements and messages, such as sales offers, purchasing offers, rental offers, club notices and the like. However, such known type of apparatus possesses different drawbacks. For instance, if there is insufficient space left at the bulletin board advertisements which have previously been posted are oftentimes randomly and indiscriminately prematurely covered over or removed, or advertisements which have become outdated are still posted for a considerable length of time. In any event, it is extremely difficult to maintain any semblance of order with regard to the posting of such advertisements, and further, the appearance of such a randomly and indiscriminately used bulletin board leaves much to be desired. Of course, the possibility exists of enclosing the bulletin board as a unit in a glass cabinet. However, if this is done then there will be required a continuous supervision of the cabinet if its purpose is to be satisfactorily fulfilled.

A further known type of an apparatus has been proposed which has a number of display compartments into which there can be inserted advertisements which are to be exhibited. Now, in order to increase the handling capacity of such apparatus two movable holding elements for the advertisements are arranged in each display compartment and can be alternately pivoted into the viewing zone of the compartment by a common drive through the agency of a mechanical gear unit. Consequently, one of the two advertisements placed in a compartment always remains hidden from the viewers. Apart from this drawback none of the known proposals provides a solution for the requirement that each user be guaranteed that his advertisement will remain in the apparatus during a predetermined, minimum period of time and will not be prematurely replaced by the advertisement of another user.

SUMMARY OF THE INVENTION

Accordingly, it is a primary object of the present invention to provide an improved apparatus of the mentioned type which overcomes the disadvantages of the known bulletin boards or bulletin cabinets, and further, overcomes the drawbacks of the previously mentioned prior art apparatus structure.

Another object of this invention concerns an improved apparatus for displaying advertisements which provides a desired supplementation to the other advertising possibilities, such as newspaper advertisements or the like, and which can be employed in public places in the open, at railroad stations and so forth, and therefore, is accessible for a larger circle of persons.

Still a further significant object of the present invention relates to an improved apparatus for exhibiting advertisements or the like which insures that the exhibitor will have his advertisement unquestionably exhibited for a predetermined minimum period of time and guarantees against unauthorized removal of such advertisement until such prescribed time has expired.

Yet another noteworthy object of the present invention relates to an improved apparatus for displaying advertisements in most any form and wherein the apparatus is extremely simple to use, completely reliable in operation, prevents tampering with advertisements which have been placed in the apparatus, and makes absolutely certain that any advertisement which has been placed in the apparatus will remain displayed for a predetermined minimum period of time.

Now, in order to implement these and still further objects of the invention which will become more readily apparent as the description proceeds, the inventive apparatus for the display of information, particularly worded or pictorial advertisements and which is coin operated advantageously comprises a plurality of display compartments each adapted to receive an advertisement. According to one very important aspect of the invention the inventive apparatus is provided with controllable individual locking means for the purpose of opening the display compartments, and further, each display compartment is provided with individual time-controlled switch means which begin to run upon the new occupancy of the associated display compartment. Further, the control means for unlocking or releasing the locking means is dependent upon the expiration of a predetermined minimum period of time of occupancy of the associated display compartment and further upon the insertion of a coin at a coin collecting device.

BRIEF DESCRIPTION OF THE DRAWINGS

The invention will be better understood, and objects other than those set forth above, will become apparent, when consideration is given to the following detailed description thereof. Such description makes reference to the annexed drawings wherein:

FIGURE 1 schematically illustrates a front view of the inventive apparatus provided with the plurality of display or viewing compartments;
FIGURE 2 is an enlarged cross-sectional view of a single display compartment and depicting the associated locking means; and FIGURE 3 is an electric circuit diagram for the electric control of the apparatus of FIGURES 1 and 2.

DESCRIPTION OF THE PREFERRED EMBODIMENT

Describing now the drawings, and, in particular, turning attention to FIGURE 1 it will be recognized that the exemplary illustrated embodiment of display apparatus incorporates a casing or carrier frame 10 having an area equipped with a plurality of schematically depicted viewing or display compartments 12. These display compartments 12 serve to receive information which is to be displayed, such as worded or pictorial advertisements etc, as has been illustrated for a number of these display compartments. Further, it will be recognized that the display compartments 12 are secured in a uniform or regular arrangement at the carrier frame 10 and can be individually opened and closed for the purpose of exchanging the advertisements. However, opening of the display compartments 12 cannot be performed at random by the users, rather to do so two conditions must be fulfilled: In order that a certain display compartment 12 can be newly occupied a predetermined minimum period of time since its last occupancy must have expired, and it is further necessary to insert a required coin at an inser slot 22 provided at the casing or frame 10.

By means of a control which will be more fully described hereinafter and which is in operable association with the individual locking mechanism for the display compartments 12, a display compartment whose minimum delay has expired will be automatically opened after insertion of the coin. Apart from the instructions 20 which are arranged at the casing or frame 10 there are also arranged therein two signal or indicating lamps 24 and 26. Now, either the lamp 24 is illuminated, which indicates to the user that all of the display compartments 12 are occupied, or the lamp 26 is illuminated, which indicates that for at least one of the display compartments 12 the aforementioned minimum time has expired. These lamps 24 and 26 are preferably provided with an appropriate illuminated writing such as "Compartments occupied" and "Compartments free," respectively.

The frame 10 together with the front of the display compartments 12 forms the cover of a non-illustrated housing in which there is accommodated the control mechanism, the electric supply component, the coin collecting box and so forth. The apparatus can be erected in a building or in the open, lowered into the corner of a brickwork, or erected at a wall, or also standing freely upon a pedestal or the like. By means of a lock 16 and the hinges 18 it is possible to open and pivot the frame unit 10 which together with the aforementioned front of the display compartments forms the cover, and this for the purpose of servicing the apparatus.

FIGURE 2 depicts a vertical sectional view through a single display or viewing compartment 12. The latter is formed by a housing 30 of relatively shallow depth which serves to receive the advertisement 14. This housing 30 is fronted by a frame 32 carrying an insertable glass plate 34. The frame 32 is pivotally mounted at the housing 30 at its lower edge by means of a shaft 36. At the upper edge of the frame 32 and at approximately the middle thereof there is secured a lock 40 which, as shown, in the locked condition of the frame 32 piercingly extends towards the rear through an opening 30a provided at the floor of the housing 30 and is operably connected with a pawl 42 or equivalent expedient. This pawl 42 forms the armature of a release magnet 1A which is secured to the rear wall of the housing 30. Pawl 42 is hingedly connected at location 44 and constructed as a hinged armature which actuates the work contact a when the magnet A is excited or energized.

Now, if the pawl 42 is attracted by the magnet A then the locking element 40 is released, and consequently, also the frame 32. The latter fits into the phantom line of position, as shown in FIGURE 2, under the action of a spring 38 or the like. In this position of the frame 32 the previously inserted advertisement 14 can be removed and replaced by a new advertisement. Thereafter, if the frame 32 is manually closed the locking element 40 slides over the pawl 42 which is then pushed downwardly bodily, with a non-excited state of the magnet A, momentarily actuates the contact a, as will be more fully developed hereinafter.

All of the display compartments 12 are similarly constructed and equipped with the previously considered individual locking elements or means. The display compartments 12 fill the surface or area of the frame 10 and can be secured to a rearward mounting grid or plate 46 as exchangeable units.

Directing attention now to FIGURE 3, here there is shown the electric circuit diagram for the electric control of the apparatus according to FIGURES 1 and 2. Purely by way of illustration there has been assumed that one hundred display compartments 12 are provided and that the minimum period of occupancy for the individual compartments amounts to seven days. Naturally, the number of compartments and the minimum time of occupancy can be differently selected, depending upon requirements.

Further, it is to be understood that the associated switching components and the electric circuitry for the display compartments 12 are the same for all compartments. To preserve clarity in illustration, FIGURE 3 only depicts the circuitry for the display compartments 1, 2, 3 and 100. Additionally, different central switching components are provided which are common to all display compartments 12, as such has been shown in the area Z of FIGURE 3. Apart from each display compartment 12 being equipped with the release magnet A having the contact a, there is also associated with each display compartment 12 a relay B having two work contacts b1 and b2 and a rest contact b3, as well as a step-by-step switch means C. This stepping or step-by-step switch means C possesses a contact arm e for the nine steps or increments per revolution.

The central switching arrangement Z embodies a one-hundred positional step-by-step switch means D having a switching arm d, a one-hundred positional manual selector switch means E, a push button K, the coin insert or collector device F with the coin contact f, an auxiliary relay E provided with a work contact e1 and a make-and-break contact e2, both of the signal or indicating lamps 24 and 26 previously discussed with regard to FIGURE 1, as well as a timing pulse generator G with the impulse contact g. The contacts b1 of all relays are electrically coupled one after the other, i.e., in succession, with the associated contact lamella or blade at the step-by-step switch means D. Furthermore, the windings of all of the release magnets A are connected to the relevant contact lamellae or blades of the manual selection switch means J. These electrical connections have been shown for the second display compartment 12 which in FIGURE 3 bears the legend "2," and to preserve clarity in the circuit diagram such connections have only been schematically indicated for the remaining depicted display compartments. Display B's are coupled by the conductor 54a with one another and via the further conductor 54 with the winding or coil of the relay E. The conductor 52 which leads away from the timing pulse contact g of the timing pulse generator G is connected via a cross-conductor or connection 52a to all contacts b3, as shown.

It is further to be appreciated that FIGURE 3 depicts the apparatus in the rest condition in which the minimum
period of occupancy has not expired for any of the display compartments 12. In this condition all of the relays and magnets are without current, and the indicating lamp 24 is supplied with current via the contact e2 which is in the rest position, so that this indicating lamp 24 will indicate that no display compartment 12 is available for the reception of new advertising elements which is under the action of the relay E serves to block the coin insert slot 22, so that there is positively prevented the mistaken insertion of a coin into the apparatus during such time as all of the display compartments 12 thereof are completely occupied.

At the time pulse generator G the contact e1 is periodically actuated once each day, preferably in each instance at 12 noon. These timing pulses arrive via the conductors 52, 52a at all of the display compartments 12, and then from this location arrive at the magnetic switch means C through the agency of the associated contact b3. As a result, the switching arms c of all of the time-controlled magnetic stepping switch means C are moved or indexed one step or increment. Upon completion of one revolution of the switching arm c the relevant or associated relay B is energized. With the situation basically depicted by the circuit diagram of FIGURE 3 such as the case for the second display compartment 12, bearing reference numeral 22, the upper left hand contact thereof and the associated pulse is delivered, whereby its minimum period of occupancy has expired. By actuating the contacts of the relevant relay B the further conducting of timing impulses to the associated magnetic switching means C is interrupted by means of the rest contact b5, and by means of the working contact b2 thereof and the contactor 54 the relay E is energized. In so doing, the make-and-break contact e2 extinguishes the signal lamp 24 and ignites the signal lamp 26, so that at the outside of the apparatus it is indicated that at least one display compartment 12 of the one-hundred provided compartments is available for a new occupancy or insertion of a new advertisement. At the same time the relay E actuates the blocking member 50, whereby the coin insert slot 22 is freed. In the event the free second display compartment 12 is not directly therefrom after used it is possible, after sending further timing pulses, that also the third display compartment 12, bearing reference numeral "3", in the upper left hand corner thereof, and subsequent display compartments will become free for a new occupancy, and which in each case will be manifested by the excitation of the relevant or associated relay B, but will not be further recognizable from the outside.

Now, if the user wishes to make use of a free display compartment and inserts the proper denomination of coin in the coin insert slot 22 then the coin contact f will be momentarily or periodically actuated. Consequently, the magnetic step-by-step switch means D receives an impulse from contact e1 via the contact f and indexes the switching arm d one further step. As a result, in the second display compartment 12 the release magnet A is energized through the agency of the switching arm d and the contact b1. This release magnet A attracts the pawl 42 which, in turn, releases the locking element 40 so that this display compartment opens. At the same time the contact a is also actuated, whereby the stepping switch means C is energized so as to index the switching arm c through one further step. When this happens the relay B is no longer supplied with current and, as a result, excitation of the magnet A is also interrupted at the contact b1. Now, the relay E is de-energized in the event no other display compartments 12 are free and thus were the case, could maintain the relay E energized by means of the associated contact b2. Next, the user removes the old advertisement 14 from the opened display compartment and replaces such with a new advertisement or the like. Thereafter, he merely closes this display compartment manually, whereby the locking element 40 slides over the pawl 42, pushing the latter downwardly so that the contact a once again is momentarily actuated in im-

pulse-like manner. This brings about the advance of the switching arm c through one further step, so that it now occupies the second step position. The stepping switch means C now once again receives the impulses from the impulse contact v via the associated contact b3. Only after the switching arm c has received seven daily impulses, that is, after the minimum period of occupancy for the second display compartment has expired, does the switching arm c again arrive at the ninth position where it energizes the associated relay B.

From what has been previously developed it follows that the occupancy of the display compartments always takes place in a sequence which corresponds to the sequence in which they are arranged in the selector switch means D. Consequently, the release or opening of these display compartments 12 through excitation of the associated relay B also takes place in the same sequence. If display compartments whose minimum period of occupancy has expired are no longer occupied again used then they still remain closed and the relevant advertisements or the like will still be displayed beyond the minimum period of time. Now, when there is need for use of one of the display compartments then always that display compartment which has been occupied for the longest period of time will be opened, in other words, that which the automatic control of such display compartment or compartments is interrupted.

The manual selection switch means J and the push button K are only accessible for a maintenance personnel when the apparatus is opened. This arrangement enables the maintenance personnel, when a situation requires, to open any given display compartment by appropriately setting the manual selection switch means J and then actuating the push button K. Further, it should be appreciated that it is also possible to have any number of individual display compartments reserved for continuous use, in which the automatic control of such display compartment or compartments is interrupted.

Naturally, numerous modifications will readily suggest themselves to those skilled in the art from the exemplary embodiment of inventive apparatus. For instance, instead of the relay B it would be possible to provide a selection or stepping switch means C having a plurality of switching arms. Further, instead of a common or central timing pulse generator G it would of course be possible to provide for each display compartment an individual timing counter or clockwork. The components J and K could also be dispensed with, in that the display compartments 12 could also be manually opened from the rear by actuating the associated pawl 42. Finally, it is conceivable to provide different groups of display compartments with different periods of occupancy or to form them of different shapes, whereby the required coin denomination can be appropriately apportioned or graduated.

What is claimed is:

1. Apparatus for displaying information, particularly for exhibiting advertisements in worded or pictorial form, comprising:

a plurality of display compartments each adapted to receive an advertisement,

coin collector means operatively associated with said display compartments,

controllable individual locking means provided for locking each display compartment and capable of being actuated in order to open the associated display compartment,

electric circuit means cooperating with each of said display compartments and their associated individual locking means,

said electric circuit means including individual timing switch means for each display compartment, means to activate said timing switch means upon each locking of the associated display compartment, and control means for actuating each of said locking means, operation of said control means being dependent
upon the expiration of a predetermined minimum period of time of occupancy of said display compartment as determined by said timing switch means and upon the insertion of a coin at said coin collector means.

2. Apparatus for displaying information, particularly for exhibiting advertisements in worded or pictorial form as defined in claim 1, wherein said electric circuit means further include indicating means dependent upon the operation of said individual time-controlled switch means for indicating the presence of an unoccupied display compartment and the occupancy of all of said display compartments.

3. Apparatus for displaying information particularly for exhibiting advertisements in worded or pictorial form as defined in claim 1, said coin collector means including blocking means for preventing the insertion of a coin until said predetermined minimum period of time of occupancy of at least one display compartment has expired.

4. Apparatus for displaying information, particularly for exhibiting advertisements in worded or pictorial form as defined in claim 1, wherein each of said individual timing switch means is defined by a stepping switch, said electric circuit means further including a central timing pulse generator for delivering timing pulses to said individual timing switch means.

5. Apparatus for displaying information, particularly for exhibiting advertisements in worded or pictorial form as defined in claim 4, further including means for interrupting the delivery of timing pulses to each respective stepping switch of each associated display compartment as soon as said minimum predetermined period of time of occupancy of the associated display compartment has expired.

6. Apparatus for displaying information, particularly for exhibiting advertisements in worded or pictorial form as defined in claim 5, wherein said interrupting means incorporates relay means.

7. Apparatus for displaying information, particularly for exhibiting advertisements in worded or pictorial form as defined in claim 4, said electric circuit means further including a central step-by-step switch means with which each of said stepping switches is electrically coupled in a sequence corresponding to the occupancy of said display compartments.

8. Apparatus for displaying information, particularly for exhibiting advertisements in worded or pictorial form as defined in claim 1, wherein said display compartments with associated locking means are constructed as exchangeable units.

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