

UNITED STATES PATENT OFFICE.

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AUTOMATIC PREDETERMINED CARD-INDEX-MEMORANDA APPARATUS.

985,125.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HARRY BATES, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented new and useful Improvements in Automatic Predetermined Card-Index-Memoranda Apparatus, of which the following is a specification.

My invention appertains to that type or class of machines or devices known, generically, as time-controlled apparatus.

My invention contemplates the utilization, in a novel and advantageous manner, of index-cards or units, *i. e.*, of cards, as units, bearing indicia or legends, constituting memoranda, or means of identification, such cards being familiar in the various well-known card-index systems in common use in this country and abroad.

The invention is designed, primarily, to provide a card-index discharging apparatus and alarm-device, which shall be mechanically controlled, automatically to discharge a card, or set or sets of cards, at desired, predetermined intervals, and, synchronously therewith, or just before or after, to sound an audible alarm.

The invention comprehends the provision of an automatically-discharging card-index apparatus, possessing the maximum of simplicity and efficiency with the minimum of cost to manufacture, the device being susceptible of profitable sale at such a low figure as to find a ready market and meet with the favorable consideration of and patronage by the general public.

The devices of my invention are capable of advantageous use in a multiplicity of situations: They are most admirably adapted for use in offices of business men and of professional men, as they can be utilized to remind the user thereof of bills to collect, notes that are due, of times for consultations and engagements, of telephone-calls to be attended to, etc. If the user of the device be a lawyer, it can be employed to remind him of his cases in court, of engagements with clients, etc. If the user of the device be a hotel-keeper, it will be unnecessary for him to keep the usual room-calls of his guests, for my device automatically delivers the cards, at predetermined intervals, to the telephone-operator, or bell-boy, or other employee, avoiding all mistakes. If the user of the device be a newspaper editor, it can be employed as a re-

minder of the proper times to give out assignments, etc. If the user of the device be a car-despatcher, it can be employed to remind him of the times when certain cars shall leave the barn, etc. If the user of the device be a public speaker, it can be employed to deliver, automatically, at predetermined intervals, as desired, the sub-heads or different paragraphs of the speech or discourse. The device may be used, to advantage, by public officers, physicians, nurses, dentists, train-despatchers, etc. It is impossible to enumerate herein all the uses to which the invention may be applied; the above are given simply as a skeleton outline, it being understood that I am entitled to protection for all the uses to which my invention may be put.

With the above objects in view, and others appearing as the specification proceeds, the invention resides, broadly, in a suitable casing having therein a plurality or series of holders, chambers, sections, or divisions, for the reception therein of sets of index-cards or memoranda-cards, or the like, or medicine, candy, etc., or any other kind of merchandise, operatively associated with mechanism for delivering or discharging from the device, automatically and at predetermined intervals, successively, the cards contained in each section, said delivery-mechanism being time- and alarm-controlled, as by an ordinary intermittent-alarm clock.

The whole gist of the invention is the combination of holders and time-mechanism adapted to deliver the contents of the holders successively at predetermined intervals, and, preferably, a sounding-alarm to give simultaneously with such delivery, or for a period before or after the delivery, an audible signal.

In the accompanying drawing, I have exhibited, as an illustrative example, one form of embodiment of apparatus capable of carrying out the underlying and basic principles of the invention.

In the drawing: Figure 1 is a side elevation, partly in section, of an embodiment of my invention; Fig. 2 is a front elevation thereof; Fig. 3 is a detail view of the actuating-mechanism; and Fig. 4 is a section on the line 4-4, looking in the direction of the arrow.

In connection with the use in my device of memoranda-cards, it may be stated that any memorandum requires, as it were, two

acts or efforts: first, the manual act of making the memorandum of something the maker thereof hopes to remember, and, second, the mental act, or effort, of remembering having made the memorandum, so that the particular object of making it shall be carried out or attended to at the proper time. My device eliminates the second act, so that it is not necessary to remember either having made the memorandum, or the time when the particular duty should be attended to. It is necessary, in connection with the use of my device, to make the memorandum; but, when the time comes for the particular thing or duty to be attended to, my device automatically reminds the maker both of what he ought to do and when he ought to do it, the device thus constituting, as it were, a memory-box, to jog the memory.

Referring, now, in detail to the drawing: A designates a suitable casing, of any preferred form and of any (desirably light and inexpensive) material. The interior of the casing is, in any appropriate, convenient, or desired manner, transversely or otherwise divided into sections, compartments, or divisions: In this instance, I have shown spaced division-walls a , these walls being preferably disposed in an inclined position, as shown in the drawing, and being, desirably, in number sufficient to provide forty-eight compartments or chambers, one compartment for each fifteen minutes of twelve hours of a day. It is understood, of course, that a greater or lesser number than forty-eight compartments may be used, as may be desired. The forty-eight compartments or chambers, thus formed, are open at the bottom. These compartments or sections, so formed by the spaced division walls a , are adapted for the reception therein of memoranda-cards, or the like. Disposed beneath the compartments is any suitable delivery-incline, such as an inclined, bent, or curved plate A' extending transversely between the side walls of the casing A.

Any suitable means may be utilized for preventing premature discharge of the cards, and, in this instance, I have shown, as an example, a reciprocable rod b normally supported beneath the open bottom of the several compartments or sections. As an example of one means of supporting said rod b , I have shown a guide-tube c , carried by the casing A, at the rear thereof, and into which tube said rod extends. The tube c may be advantageously slotted longitudinally, as at c' . The rod b is provided with a rack b' projecting through the slot c' , whereby the rod b is prevented from rotating or turning.

Any convenient or preferred means may be utilized for reciprocating the rod: In this instance, I have shown, as an example of one form, the following: The rod b is

actuated by a spur-gear d engaging the rack b' , said gear being carried at one end of a shaft D suitably supported for revoluble movement. The shaft D carries, at its other end, a bevel gear d' , meshing with a like gear e on a shaft E, carrying a gear e^2 meshing with a pinion f' on the winding-arbor f of, preferably, an intermittent-alarm clock F modified so that the alarm, instead of operating at intervals of less than a minute, operates, preferably, for my purposes, at fifteen minute intervals. However, any kind of clock mechanism may be used, other than an intermittent-alarm mechanism. The alarm, itself, is shown conventionally, represented by letter G.

The operation of the device will be obvious: Revolution of the winding-arbor f in one direction, *i. e.*, to the left, to wind up the spring in the intermittent-alarm clock F, will, through the chain of gearing described, cause the spur-gear d to drive the rod b forward so as to lie beneath all the card-compartments or sections, which is the normal position of said rod. The alarm is now set and, at the end of each fifteen minutes during twelve hours of the day, the intermittent-alarm-clock, through the chain of gearing, will cause the rod b to move rearward the distance of the width of one compartment or section, *i. e.*, the rod is caused to move from beneath each compartment or section of the series, successively, at intervals of fifteen minutes, whereupon all the cards in each compartment, as the rod is moved from therebeneath, are released and fall onto the chute A' , whence they are ejected from the device, as at point A^2 . As an example of mechanism for causing actuation of the gears e , e^2 , etc., I have illustrated, in Fig. 3, one form thereof: The winding-arbor or stem f is secured to a ratchet H, which is on the same shaft as a gear I. The ratchet H is coupled to the gear I by a pawl i pivotally carried by the gear I, so that the ratchet and gear move together in one direction. In the other direction, *i. e.*, while winding, the ratchet H turns, while the gear I remains stationary. Any suitable train of gears is employed. Gears J, K and L are shown. The shaft of gear L has a tooth l , that engages with pins m carried by a detent-wheel M. This wheel M is on one of the time-shafts of the clock, and has a suitable number of pins, according to which shaft it is on. Six teeth are shown for illustration; therefore, this would be a shaft making a complete revolution in ninety minutes. In winding, the tooth l engages one of the pins m on the wheel M, thus holding the train of gears, including the gear I, stationary, while the ratchet H is turned by the shaft or winding-arbor f . This winding operation winds up the spring h , one end of which is secured to the ratchet H and the other end to a post

h' on the clock-frame, and, at the same time, advances the rod b to its extreme forward position beneath all of the compartments or holders. The alarm is now set in operation, with the result that every fifteen minutes one of the pins m on the wheel M passes out from engagement with the tooth l , whereby the latter is free to make one complete revolution, when it is arrested by contacting with the next pin m . The wheel M continues to advance, and fifteen minutes later this pin passes away from the tooth. Each of these escapes enables the spring h to turn the coupled gear I and ratchet H slightly, sufficient to draw the rod b backward the distance of one compartment or holder, and permitting the contents thereof to fall out. At the same time (or, if desired, for a period before or after such delivery) the alarm-bell or buzzer G is sounded. The alarm-bell is operated by the alarm-train (not shown) in the regular or any desired manner.

The whole gist of my invention being the combination of holders and time-mechanism for controlling the delivery-mechanism, automatically to deliver the contents of such holders, successively, at predetermined intervals, and, preferably, an alarm to give an audible signal at the time of such delivery, or for a period before or after the delivery, it is immaterial and entirely unimportant what kind of holders and what sort of delivery-mechanism may be used.

It is to be understood that many changes and modifications in detail may be made; but all such changes as come within the scope of the appended claims constitute no departure from the spirit of the invention.

Having thus fully described my invention, what I claim as new and desire to secure by Letters-Patent is:

1. In time-controlled apparatus, the combination with a casing, of a series of stationary pockets therein, movable means for preventing premature release of and discharge from said pockets of articles placed therein, and time-controlled operating-mechanism for intermittently actuating said movable means, successively to release the contents of the several pockets.

2. In combination, a casing; a series of stationary pockets therein, movable means for preventing premature release of and discharge from said pockets of articles placed therein, and automatically-operating mechanism for intermittently actuating said movable means, successively to release the contents of the several pockets.

3. In combination, a casing, a series of stationary pockets therein, open at one end, movable means for preventing premature release of and discharge from said pockets of articles placed therein, and automatically-operating mechanism for intermit-

tently actuating said movable means, successively to release the contents of the several pockets.

4. In combination, a casing, a series of pockets therein, open at the lower end, means normally disposed beneath said pockets for preventing premature release of and discharge from said pockets of articles placed therein, and automatically-operating mechanism for intermittently actuating said means, successively to release the contents of the several pockets.

5. The combination with a series of stationary pockets, of movable means for preventing premature release of and discharge from said pockets of articles placed therein, and automatically-operating mechanism for intermittently actuating said means, successively to release the contents of the several pockets.

6. The combination with a series of stationary pockets, of movable means for preventing premature release of and discharge from said pockets of articles placed therein, automatically-operating mechanism for intermittently actuating said means, successively to release the contents of the several pockets, and automatic means for giving a signal at each said release of the contents of a pocket.

7. The combination with a series of stationary pockets, of movable means for preventing premature release of and discharge from said pockets of articles placed therein, automatically-operating mechanism for intermittently actuating said means, successively to release the contents of the several pockets, and automatic means for giving an audible signal at each said release of the contents of a pocket.

8. In a device of the character specified, a casing, containing a series of compartments open at the lower end, means normally disposed beneath said compartments for preventing premature release of and discharge from said compartments of articles placed therein, and time-controlled mechanism for intermittently actuating said means, successively to release the contents of the several pockets in said series.

9. In a device of the character specified, a casing, containing a series of compartments open at the lower end, a reciprocable member normally disposed beneath said compartment for preventing premature discharge from said compartments of articles placed therein, and time-controlled mechanism for intermittently actuating said member, successively to release the contents of the several pockets in said series.

10. In a device of the character specified, a casing, containing a series of compartments open at the lower end, a reciprocable rod normally disposed beneath said compartment for preventing premature dis-

charge from said compartments of articles placed therein, and time-controlled mechanism for intermittently actuating said member, successively to release the contents of the several pockets in said series.

11. In a device of the character specified, a casing, a series of spaced division walls disposed in an inclined position within said casing and forming a series of compartments open at the lower end thereof, means for preventing premature discharge from said compartments of articles placed therein, and time-controlled mechanism for intermittently actuating said means, successively to release the contents of the several pockets or compartments in said series.

12. In a device of the character specified, a casing, containing a series of compartments open at one end, a reciprocable member normally disposed beneath said compartment for preventing premature discharge therefrom of articles placed therein, a guiding-support for said reciprocable member, and time-controlled mechanism for intermittently actuating said member, successively to release the contents of the several pockets in said series.

13. In a device of the character specified, a casing, containing a series of compartments open at one end, a reciprocable member normally disposed beneath said compartments for preventing premature discharge therefrom of articles placed therein, a guiding-tube into which said member projects, and time-controlled mechanism for intermittently actuating said member, successively to release the contents of the several pockets in said series.

14. In a device of the character specified, a casing, containing a series of compartments open at one end, a reciprocable member normally disposed beneath said com-

partment for preventing premature discharge therefrom of articles placed therein, a longitudinally-slotted guiding-tube into which said member projects, said member carrying a rack projecting through said slot in the tube, and time-controlled mechanism for intermittently actuating said member, successively to release the contents of the several pockets in said series.

15. In a device of the character specified, a casing, containing a series of compartments open at one end, a reciprocable member normally disposed beneath said compartments for preventing premature discharge therefrom of articles placed therein, and having a rack, an intermittent-alarm clock, and mechanism intermediate of and operatively associated with said clock and said rack, and comprising, in part, a spur-gear engaging said rack, whereby said reciprocable member is intermittently actuated to move, at predetermined intervals, from beneath said compartments, successively.

16. In a device of the character specified, a casing, containing a series of compartments open at one end, a reciprocable member normally disposed beneath said compartments for preventing premature discharge therefrom of articles placed therein, and having a rack, a spur-gear meshing with said rack, an intermittent-alarm clock having a winding-arbor, carrying a pinion, and a chain of gearing intermediate said pinion and said spur-gear.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

HARRY BATES.

Witnesses:

A. M. SMITH,
ROBT. VON WALLMENICH.