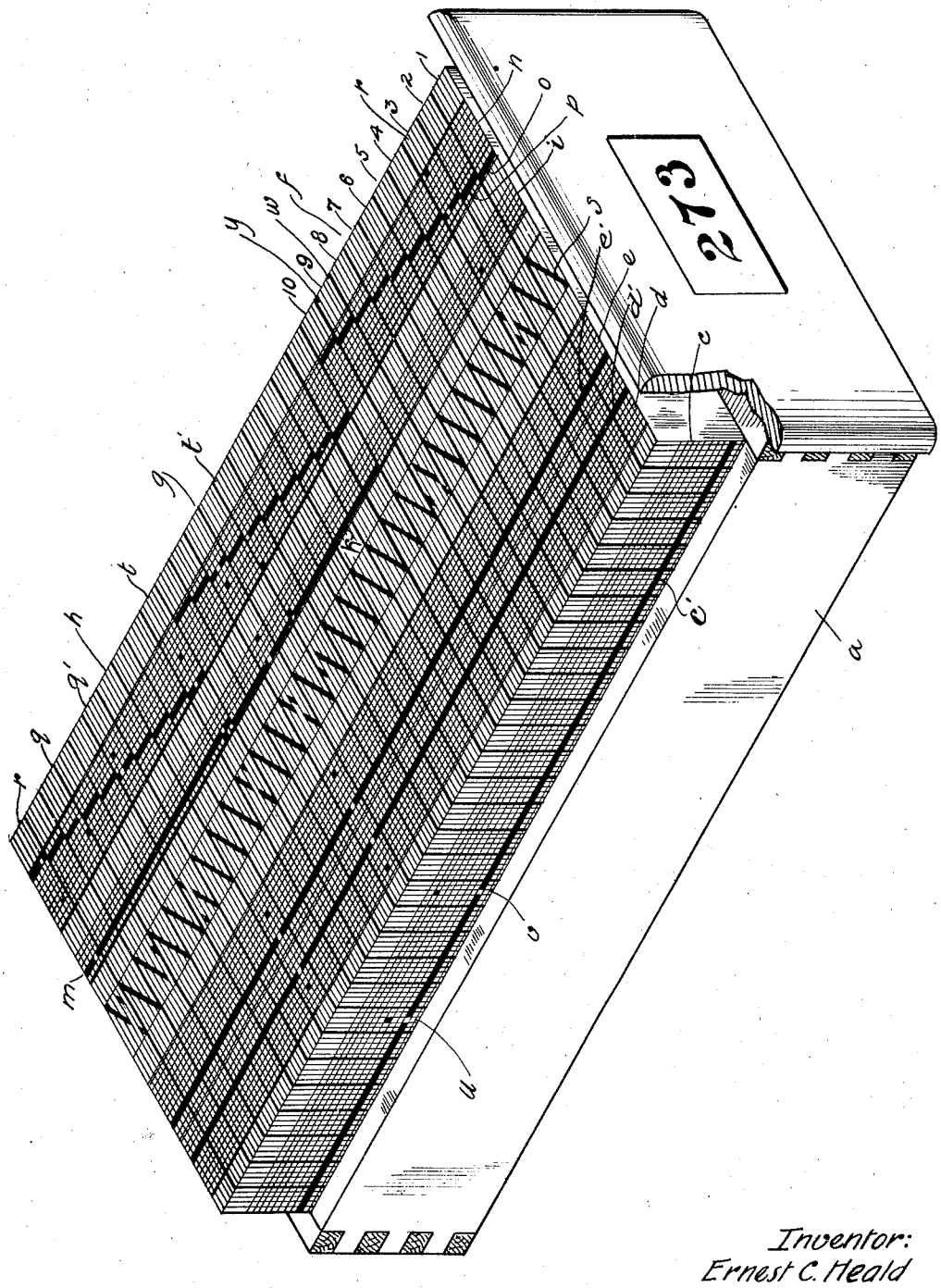
Feb. 24, 1925. 1,527,410

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IDENTIFYING AND CLASSIFYING FILE

Original Filed Oct. 16, 1918



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Patented Feb. 24, 1925. 1,527,410

UNITED STATES PATENT OFFICE.

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IDENTIFYING AND CLASSIFYING FILE.

Substitute for application Serial No. 258,478, filed October 16, 1918. This application filed September 26, 1919. Serial No. 326,665. Renewed May 28, 1924.

To all whom it may concern:

Be it known that I, ERNEST C. HEALD, a citizen of the United States, and a resident of Portland, county of Multnomah, and State of Oregon, have invented a new and useful Improvement in Identifying and Classifying Files, of which the following is a specification.

This invention relates to files, such as cards, or equivalent substantially flat articles, for example folders or pockets, adapted for being massed together, side for side, and serially arranged, as a whole, in a general class, and subdivided into groups representing sub-classes.

The object of my invention is to provide the whole series of file-elements with readily discernible markings identifying and classifying them as part of a general class, and of a particular sub-class in the general class; and further indicating their proper place in the sub-class or sub-divisions.

More specifically stated, said markings function:—

First: To establish the identity of each file-element with respect to the general class. Assuming the file-elements to be classified by placing in drawers or other container, my invention would identify the file-elements with respect to the number of the drawer in which they belong.

Assuming further that the entire series of file-elements is sub-divided into groups, and sub-groups or sub-classes, my invention would further identify the file-elements with respect to the particular group and sub-group in which they belong; also the particular place of each in a particular sub-group; in each case facilitating the proper placement of the file-element;

Second: To disclose at a glance, as it were, that the series, or a group, is incomplete, because a particular file element is missing;

Third: To disclose that the series, or group, contains a misplaced file-element.

A further object of my invention is to identify and classify the file-elements with respect to a system of arithmetical notation, and have certain of the marking segments which each file-element bears constitute a part of a symbolic delineation denoting the ordinal of the whole class; another symbolic marking denoting the ordinal of the file-element in a group constituting a sub-class or sub-division, to which it belongs, and a further symbolic marking denoting the ordinal of the place of each file-element in a smaller sub-group.

In order to apply my invention, the file-elements must be adapted for massing substantially flatwise, side by side. For convenience these elements will be spoken of as cards.

I attain my object by arranging the cards serially with respect to a general class, dividing the latter into groups or sub-classes, and establishing the relationship of the cards to the general class, to the groups and the sub-groups, and also the order of placement of the cards in the sub-group, by providing the exposed edge of each card with a segment of a symbolic delineation denoting the class, other symbolic markings denoting the group and sub-group, and a still other or auxiliary symbolic marking denoting the order of placement of the card in the sub-group. The symbolic delineation denoting the class extends across the exposed edges of the entire series; the delineation denoting a group or sub-group extends across the edges of the cards comprising such group or sub-group only, and the auxiliary delineation denoting the placement of the cards within the sub-group also extends preferably diagonally across the cards comprising the latter.

These symbolic markings represent a system of arithmetical notation with respect to which the marking segments borne by the individual cards denote the digits in the whole number symbolically presented by the delineation on the exposed edges of all the cards in the series, groups or sub-groups of the series, when in their proper places.

To facilitate the reading of said marks the edges bearing said marks must present a substantially uniform surface, so that the marking segments will present substantially an uninterrupted continuous delineation; that is to say, the marking segments of each card must harmoniously connect with a related marking segment borne by the cards on one or both sides of it, in order to disclose, at a glance, by any unharmonious arrangement of the marking segments of the cards, that a card is misplaced, or is missing.

The delineation presented by the edges of the cards as a whole, must be of such character as to promote the above mentioned

features; and the marking segment borne by each card classifying the card with regard to an order of placement must be an integral and essential part of a complete delineation without which the continuity of such delineation will appear broken.

In practice, I find straight lines across the edges of the cards and extending in part perpendicular, and in part oblique with the plane of the flat sides of the cards, as most suitable.

The figure in the drawing shows, perspectively, a drawer containing a file of cards to which my invention is applied as in practice. *a* represents the drawer, the front of which bears the No. 273 which, it will be assumed, is the class number of the file of cards contained in the drawer.

This class number is borne by the exposed side and top edges of the file of cards; that is to say, the side edges are provided with a series of parallel lines *c* extending across the edges of the file of cards exposed above the sides of the drawer; and *d* and *e* are other series of parallel lines extending across the top edges of the file of cards.

Each of the series of lines *c*, *d*, *e*, are adapted to provide 10 spaces and represent a system of decimal notation thus: *c* represents hundreds, *d* tens, and *e* units.

The lines may be used to present in themselves the arbitrary divisions in the system of notation, or the spaces set off by the lines may be used for that purpose, as deemed convenient. I chose the latter mode in illustrating my invention in the drawing. Thus the second space in the series of lines *c* is filled with a heavy black line *c'* and designates the digit 2. The seventh space in the series of lines *d*, and the third space in the series of lines *e* are likewise filled in with heavy black lines *d'* and *e'* and represent the digits 7 and 3 respectively. The symbols presented in the series of lines *c*, *d*, *e*, are to be read together, and give the number 273 as mentioned. Of course the series of lines *c* could also be marked on the upper edges of the file of cards instead of the side edges thereof as shown; but I illustrated my invention in the manner described so as to show that the side edges exposed above the sides of the drawer may also be utilized, if found expedient, to classify and identify the cards composing the file. The use of lines as *c*, *d* and *e* is optional and they may be omitted where not required by the system of notation.

The general class composed by the cards contained in the drawer and identified collectively by the No. 273, is divided into three sub-classes or groups *f*, *g*, *h*, which sub-classes or groups are identified and classified by the symbolic delineation placed in the series of lines *i*, extending across the top edges of all the cards perpendicularly to the flat-sides of the cards. Thus the first space of the series of lines *i*, extending across the sub-class or group *f* is left blank which denotes cipher or 0. The first space in said series of lines *i* extending across the sub-class or group *g* is filled with a heavy black line *k*, denoting the number 1, and the second space of said series of lines *i* extending across the sub-class or group *h* is filled with a heavy black line *m* to designate the number 2. Hence the identifying mark of all the cards in the group or sub-class *f*, denotes 0, that of the sub-class or group *g* denotes 1, and that of the sub-class or group *h* denotes 2.

Each of the groups or sub-classes *f*, *g*, *h*, is further sub-divided into 10 smaller sub-divisions or sub-groups, as designated by the reference numbers 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, in the sub-group *f*. These numbers are symbolically denoted by the delineations associated with the series of lines *n* providing 10 spaces between them. Thus the group of cards composed in the sub-group 1 has the first space of said series of lines *n* filled in with a heavy black line *o*, denoting the numeral 1; the group of cards comprising the second sub-group has the second space of said series of lines filled in with a heavy black line *p* denoting the numeral 2; and so on thruout the entire sub-class or group, as shown in the drawings.

Each of the sub-divisions or sub-groups 1 to 10 comprises a series of cards of any convenient number. These cards have drawn across their upper edges a heavy diagonal line *s*. The line is drawn diagonally so that when a card in the series is missing or misplaced that fact is disclosed at a glance by the brake in the line, as at *w*, producing the effect of two lines offset; and the segment of the diagonal line borne by the card misplaced will facilitate the discovery of the latter and the location of the place where it belongs.

Recapitulating the working of my invention in practice: The identification of the cards with respect to a general class number is symbolically established by the heavy black lines in the series of lines *c*, *d*, *e*, extending across all the cards of the series. As evident, if the cards were provided with no other distinguishing classifying feature, their displacement, or the fact that a card is missing would not be disclosed.

Therefore the heavy black lines associated with the series of lines *i* are provided to classify and identify the cards belonging to particular sub-classes or groups. If any card in these sub-classes or groups were accidentally placed in a sub-class or group in which it did not belong, the displacement would be discovered in the break of the continuity of the symbolic delineation as shown at *r* and *r'*; note two cards have been ex-

changed. But the latter means of classifying and identifying would not be sufficient to identify and classify the cards with respect to the particular sub-division or group to which they belong. That function is performed by the symbolic delineation associated with the series of lines *n*. If one of the cards belonging to a sub-class or group were misplaced in said group, there would appear a lack of continuity of the symbolic delineation associated with the series of lines *n*, as shown at *q* and *q'*; note two cards have been exchanged. Finally by providing a heavy diagonal black line as shown at *s* across the edges of a sub-group of cards if any one of such cards is misplaced as for example, shown at *t* and *t'*, such fact is discovered by mere inspection since the break in the diagonal line *s* at *t* shows that one of its integral segments is missing; and by noting the broken delineation at *t'* it will become evident that the missing card is located there. In short, the card inserted at *t'* should have been inserted at *t*.

Other examples of the working of my invention with respect to disclosing misplacement and omission of cards are shown in the drawings as follows:

u designates a card which belongs to another drawer whose number is 547 and but for the symbolic notation of the drawer-number on the card, the incorrect placing of the card would not be discovered. From the symbolic notations borne by the card it may be assumed that it is exchanged with another card of the same sub-class, sub-division, and place in the latter, but belongs to drawer number 547 as apparent from the symbolic segmental delineations located in the series of lines *c*, *d*, and *e*.

At *v* a card has been inserted which belongs to drawer bearing number 929, as apparent from the symbolic segmental delineation located in the series of lines *c*, *d*, and *e*.

In the sub-division 9 of sub-class 0, the second card *y* has been wrongly placed after the fifth card, thus showing an offset or interruption of the connecting segments of the first and third cards in the diagonal line *s* of said sub-division; and the fifth card of said sub-division also showing a misplaced segment of said diagonal line. If a card were missing in any sub-division it would be disclosed by the unsymmetric appearance or break in the diagonal line in the sub-division, as also illustrated at *w* in sub-division 9. Numerous other illustrations of the workings of my invention in preventing and detecting omissions and misplacement of cards, or other file-elements could be given, but I believe the examples given as sufficient.

Thus in short the principle involved in my invention may be said to consist in providing the exposed edges of the cards with related symbolic delineations serving both to classify and identify each card with respect to its place in a general class, sub-class and other sub-division as mentioned. And in a file having its elements so identified and classified, any incompleteness, or disarrangement is readily discovered because there will be a break in the completeness of one or more of the related symbolic delineations presented by the edges of the cards.

The symbolic delineation employed is a matter of choice. I found lines convenient, but as obvious, lineal depressions or raised segments would also answer. However, lineal delineations marked on the surfaces of the cards are more conveniently read since all details of the delineations are located in the same plane. And, furthermore, the printing of delineations on the edges of a massed file of cards is obviously a much simpler operation than the cutting of the margins of the cards since each group and sub-group of the latter would have to have individual treatment, while the imprinting of all inter-related delineations on the edges of massed cards can be accomplished by a single operation.

I claim:

1. A file comprising a series of flat elements massed side by side presenting a general class and groups or sub-classes thereof, a symbolic unbroken delineation composed of lineal characters extending transversely across the exposed edges of the entire series thereby denoting the ordinal designating the series as a whole in a system of notation, a further symbolic delineation extending across the file elements comprising a group, and adapted to denote the ordinal of the latter with respect to its order of placement in the general class, each file element bearing an integral segment of each of said delineations connecting with the segments borne by the file elements on one or both sides of it.

2. A file comprising a series of flat elements massed side by side presenting a general class and groups or sub-classes thereof, a symbolic unbroken delineation composed of lineal characters extending transversely across the exposed edges of the entire series thereby denoting the ordinal designating the series as a whole in a system of notation, a further symbolic delineation offset progressively extending across the file elements comprising a group, and adapted to denote an ordinal of the latter with respect to its order of placement in the general class, each file element bearing an integral segment of each of said delineations connecting with the segments borne by the file elements on one or both sides of it.

3. A file comprising a series of flat elements massed side by side presenting a gen-

eral class, and groups and sub-groups thereof, lineal delineations extending across the exposed edges of the entire series, other lineal delineations extending across the exposed edges of those file elements only comprising a group, and still other lineal delineations extending across the exposed edges of those file elements only comprising a sub-group, said lineal delineations representing respectively symbolically the digits of a system of decimal notation, and functioning to denote the ordinal of the entire series as a general class, and the ordinals of the groups and subgroups thereof, each file element bearing an integral segment of each of said delineations connecting with the segments borne by the file elements on one or both sides of it.

4. A file comprising a series of flat elements massed side by side presenting a general class, and groups and sub-groups thereof, lineal delineations extending across the exposed edges of the entire series, other lineal delineations extending across the exposed edges of those file elements only comprising a group and still, other lineal delineations extending across the exposed edges of those file elements only comprising a sub-group, said lineal delineations representing respectively symbolically the digits of a system of decimal notation, and functioning to denote the ordinal of the entire series as a general class, and the ordinals of the groups and subgroups thereof, and an oblique line extending across the file elements comprising a sub-group adapted to denote the ordinals of the individual elements within such sub-group with respect to their order of placement therein, each file element bearing an integral segment of each of said delineations connecting with the segments borne by the file elements on one or both sides of it.

5. A file comprising a series of flat elements massed side by side representing a general class, and groups and sub-groups thereof, lineal delineations extending across the exposed edges of the entire series, other lineal delineations extending across the exposed edges of those file elements only comprising a group and still, other lineal delineations extending across the exposed edges of those file elements only comprising a sub-group, said lineal delineations representing respectively symbolically the digits of a system of decimal notation, and functioning to denote the ordinal of the entire series as a general class, and the ordinals of the groups and sub-groups thereof, and a further oblique delineation offset progressively extending across the file elements comprising a sub-group and adapted to denote the ordinals of the individual elements within such sub-group with respect to their order of placement therein, each file element bearing an integral segment of each of said delineations connecting with the segments borne by the file elements on one or both sides of it.

6. A file comprising a series of flat elements massed side by side presenting a general class and groups or sub-classes thereof, a symbolic unbroken uniform delineation composed of lineal characters extending transversely across the exposed edges of the entire series thereby denoting the ordinal designating the series as a whole in a system of notation, another symbolic delineation extending across the edges of a group in said series denoting the ordinal of the group in a system of notation, and thereby designating the relative place of the group in the series, a further symbolic delineation extending across the file elements comprising a group, and adapted to denote the ordinals of the individual file elements within the group with respect to their order of placement therein, each file element bearing an integral segment of each of said delineations connecting with the segments borne by the file elements on one or both sides of it.

7. A file comprising a series of flat elements massed side by side presenting a general class and groups or sub-classes thereof, a symbolic unbroken uniform delineation composed of lineal characters extending transversely across the exposed edges of the entire series thereby denoting the ordinal designating the series as a whole in a system of notation, another symbolic delineation also composed of lineal elements offset progressively extending across the edges of a group in said series denoting the ordinal of the group in a system of notation, and thereby designating the relative place of the group in the series, a further symbolic delineation extending across the file elements comprising a group, and adapted to denote the ordinals of the individual file elements within the group with respect to their order of placement therein, each file element bearing an integral segment of each of said delineations connecting with the segments borne by the file elements on one or both sides of it.

8. A file comprising a series of flat elements massed side by side presenting a general class and groups or sub-classes thereof, a symbolic unbroken uniform delineation composed of lineal characters extending transversely across the exposed edges of the entire series thereby denoting the ordinal designating the series as a whole in a system of notation, another symbolic delineation also composed of lineal elements extending across the edges of a group in said series denoting the ordinal of the group in a system of notation, and thereby designating the relative place of the group in the

series, a further symbolic de'ineation composed of oblique lineal elements extending across the file elements comprising a sub-group, and adapted to denote the ordinals of the individual file elements within the sub-group with respect to their order of placement therein, each file element bearing an integral segment of each of said delineations connecting with the segments borne by the file elements on one or both sides of it.

9. A file comprising a series of flat e'ements massed side by side presenting a general class and groups or sub-classes thereof, a symbolic unbroken uniform delineation composed of lineal characters extending transversely across the exposed edges of the entire series thereby denoting the ordinal designating the series as a whole in a system of notation, another symbolic delineation extending across the edges of a group in said series denoting the ordinal of the group in a system of notation, and thereby designating the relative place of the group in the series, a further symbolic delineation offset progressively extending across the file elements comprising a group, and adapted to denote the ordinals of the individual file elements within the group with respect to their order of placement therein, each file element bearing an integral segment of each of said delineations connecting with the segments borne by the file elements on one or both sides of it.

10. A file comprising a series of flat elements massed side by side presenting a general class and groups or sub-classes thereof, a symbolic unbroken uniform delineation composed of lineal characters extending transversely across the exposed edges of the entire series thereby denoting the ordinal designating the series as a whole in a system of notation, another symbolic delineation extending across the edges of a group in said series denoting the ordinal of the group in a system of notation, and thereby designating the relative place of the group in the series, a further symbolic delineation composed of oblique lineal elements offset progressively extending across the file elements comprising a sub-group, and adapted to denote the ordinals of the individual file elements within the sub-group with respect to their order of placement therein, each file element bearing an integral segment of each of said delineations connecting with the segments borne by the file elements on one or both sides of it.

11. A file comprising a series of flat elements massed side by side and a symbolic continuous uniform delineation extending across the file elements of the series, and adapted thereby to denote the ordinals of the individual file elements within the series with respect to their order of placement therein, each file element bearing an integral segment of said delineation connecting with the segments borne by the file elements on one or both sides of it.

12. A file comprising a series of flat elements massed side by side and a symbolic continuous uniform delineation composed of oblique lineal elements extending across the file elements of the series, and adapted thereby to denote the ordinals of the individual file elements within the series with respect to their order of placement therein, each file element bearing an integral segment of said delineations connecting with the segments borne by the file elements on one or both sides of it.

13. A file comprising a series of flat elements massed side by side and a symbolic continuous uniform delineation offset progressively extending across the file elements of the series, and adapted thereby to denote the ordinals of the individual file elements within the series with respect to their order of placement therein, each file element bearing an integral segment of said delineation connecting with the segments borne by the file elements on one or both sides of it.

14. A file comprising a series of flat elements massed side by side and a symbolic continuous uniform delineation composed of oblique lineal elements offset progressively and extending obliquely across the file elements of the series, and adapted thereby to denote the ordinals of the individual file elements with respect to their order of placement therein, each file element bearing an integral segment of said delineation connecting with the segments borne by the file elements on one or both sides of it.

15. As an article of manufacture, a plurality of cards adapted to conveniently occupy a desired receptacle, said cards having shaded and light lines spaced apart and delineated upon and along the upper massed edges of the cards in place and longitudinally of the receptacle, and lines of similar character extending upon and along the massed edges of one end of said cards longitudinally of the receptacle, all of said markings being arranged in a predetermined manner with relation to each other, whereby the said lines and spaces between them may represent and indicate digits in a number assigned to the receptacle, and by means of which a single card bearing said markings may be identified as a member of the series of cards belonging to and for deposit in the particular receptacle having said number, by a reading of the aforesaid markings upon the card, substantially as described.

16. As an article of manufacture, a plurality of cards adapted to conveniently oc-

cupy a desired receptacle, said cards having shaded or light lines spaced apart and delineated upon and along the upper massed edges of the cards in place, longitudinally of the receptacle, and within divisions and subdivisions thereof, in pre-determined positions, also having other single, diagonal lines in pre-determined positions delineated upon and along the massed upper edges of the cards in place in the receptacle, and within each of its aforesaid sub-divisions, all of said markings being arranged in a pre-determined manner with relation to each other, whereby the said longitudinal lines and spaces between them may represent and indicate digits in a number assigned to each of said divisions, sub-divisions and individual cards within the receptacle, and whereby a single card may be identified as to its membership and position in each of the said divisions and sub-divisions of the receptacle, by a reading of the aforesaid markings upon the card, substantially as described.

17. As an article of manufacture, a plurality of cards adapted to conveniently occupy a desired receptacle, said cards having shaded and light lines spaced apart and delineated upon and along the upper massed edges of the cards in place and longitudinally of the receptacle, and lines of similar character extending upon and along the massed edges of one end of said cards longitudinally of the receptacle, all of said markings being arranged in a pre-determined manner with relation to each other, whereby the said lines and spaces between them may represent and indicate digits in a number assigned to the receptacle, and by means of which a single card bearing said markings may be identified as a member of the series of cards belonging to and for deposit in the particular receptacle having said number, by a reading of the aforesaid markings upon the card, said cards also having a desired number of shaded or light lines spaced apart and delineated upon and along the upper massed edges of the cards in place, longitudinally of the receptacle, and within divisions and sub-divisions thereof, in pre-determined positions, also having other single, diagonal lines in pre-determined positions delineated upon and along the upper massed edges of the cards in place in the receptacle, and within each of its aforesaid sub-divisions, all of said markings being arranged in a predetermined manner with relation to each other, whereby the said second set of longitudinal lines and spaces between them may represent and indicate digits in a number assigned to each of said divisions, sub-divisions and individual cards within the receptacle, and whereby a single card may be identified as to its membership and position in each of the said divisions and sub-divisions of the receptacle, by a reading of the aforesaid markings upon the card, substantially as described.

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