Sept. 30, 1952 N. I. STARK 2,612,168

CARD SYSTEM

Filed April 30, 1946

FIG. 1

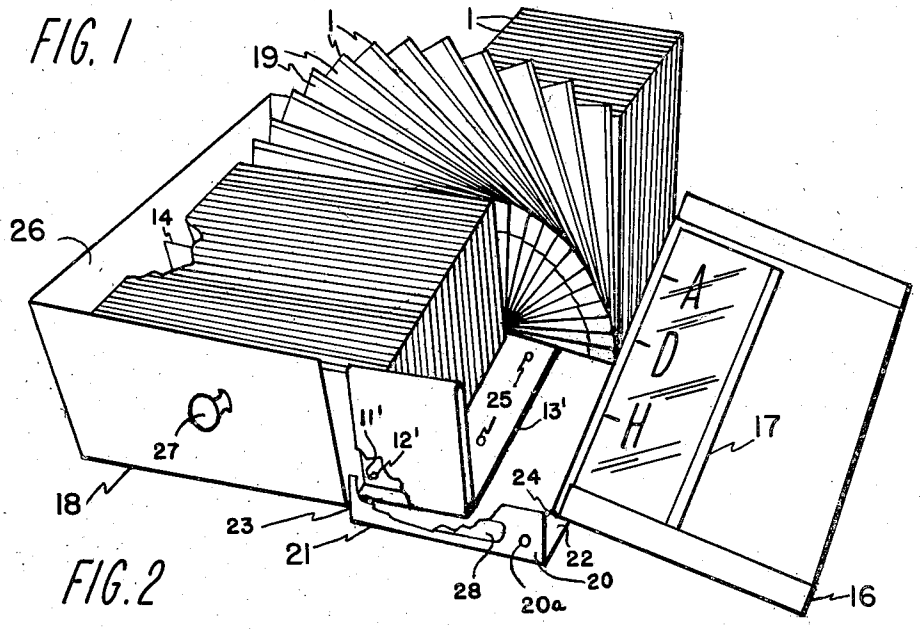


FIG. 2

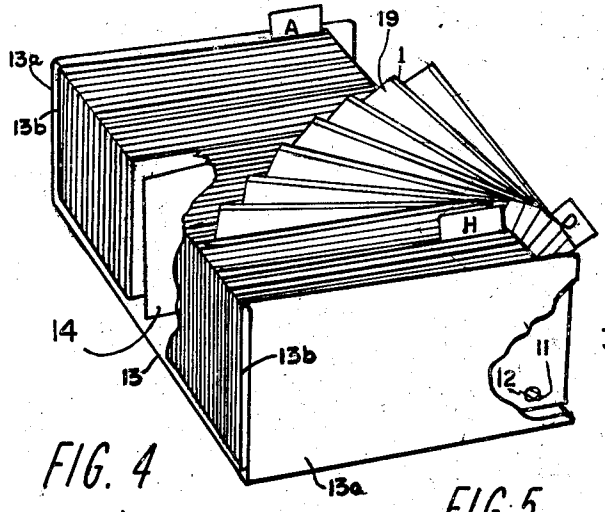


FIG. 3

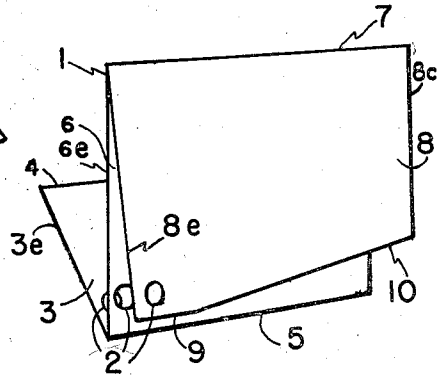


FIG. 4

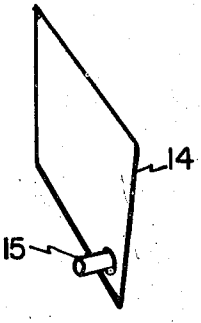
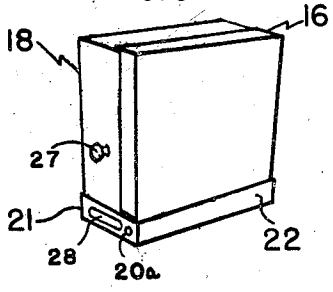


FIG. 5



INVENTOR

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2,612,168

CARD SYSTEM

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9 Claims. (Cl. 129—16.5)

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This invention relates to improvements in card or card index systems and it provides, among other things, improved embodiments of the invention set forth in my United States Patent No. 2,156,551 granted May 2, 1939 for "Card System."

The particular form of construction illustrated in that patent lacks certain desired features of a card index system, for example, in that the index members or cards as shown are not interchangeable.

An object of the present invention is to overcome this limitation and to fulfill other practical needs in providing an extremely efficient card index system.

Among other features, the present invention provides a card or index system utilizing a plurality of swingable index members of duplicate or interchangeable construction in such manner that any desired number of the members may be easily fanned out or turned around a common axis with respect to others in a group or stack to expose separately definite parts of the desired members for reference or index purposes. Another feature resides in providing the index members as receiving members for cards or the like that may be loosely received and held in such members and carried by them to fanned-out positions for exposure of data on the several cards. The invention also provides a card or index system employing such receiving members and standard cards placed therein, whereby any desired series of a large group of the members and cards may be fanned out to expose a part of each card in the series by simply swinging a leading member of the series.

Further features hereof include arrangements of groups of the receiving members and cards in retainers or cabinets which hold the members both in a normal stacked or housed position and in advantageous positions of use as desired, and which permit easy removal or replacement of any group of the members or any member of a group. New index members and new retainers and cabinets for them also are provided to embody features here disclosed.

Other objects, features and advantages of this invention will appear from the following detailed description of preferred embodiments and from the accompanying drawing in illustration thereof. In the drawing, which forms a part of this specification,

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Figure 1 is a perspective view of one construction embodying the invention, in which a folding cabinet housing a group of index members and cards appears in an open position of use;

Figure 2 is a perspective view of a modified form wherein an open retainer is provided for a group of the index members and cards;

Figure 3 is a full perspective view showing in a partially unfolded condition a single index or receiving member of the construction employed in the assemblies of Figures 1 and 2;

Figure 4 is a full perspective view of a vane for keeping the members in an upright position, such vane also being partially visible in Figures 1 and 2; and

Figure 5 is a perspective view of the construction of Figure 1 as it appears when the folding cabinet is closed.

The index or receiving members 1 provided according to this invention may be considered as each being N-shaped in endwise configuration when its leaves are partially spread open, as they are in Figure 3. Each member may be made of a piece of any flexible fibrous or other suitable sheet material, which is cut to the desired shape and folded twice along fold lines 5 and 7 so as to provide a front leaf 3 and a back leaf 8 folded back upon opposite sides of an intermediate body leaf 6 which preferably has parallel top and bottom side edges at the fold lines. The members normally lie face to face, and each member has an opening 2 punched through it near a corner thereof to accommodate a common axis about which the members are swung or fanned out in use. The front leaf 3 of each member is shorter than the body leaf and may have a free side edge 4 parallel with fold 5. The back leaf 8 also should be somewhat shorter than the body leaf 6, and its free side edge 9 preferably is cut away at an angle along a diagonal line 10 which forms an abutting edge extending from edge 9 to the end edge 8c of leaf 8. When the length of end edge 8c is equalled by the length of end edge 3e of leaf 3, the merging portions of side edges 10 and 4 respectively may both abut against folds of adjacent receiving members in use of the system as hereinafter described.

A group of many of the swingable or receiving members 1 in interleaved relationship is assembled to make a card or index system according to this invention, by arranging the inter-

leaved members with their respective openings 2 in alignment and providing a transverse axle member or interconnection for the group at the openings, about which the members may be swung in their respective planes. The members may be interleaved by inserting the back leaf 8 of each between the front leaf 3 and the body leaf 6 of an adjacent member toward its fold line 5, or conversely, inserting the front leaf 3 of one member between leaves 6 and 8 toward fold line 7 of another member. The respective fold lines 5 and 7 of the interleaved members then may lie normally in common parallel places, and an axle member or rod 11' (Fig. 1) or 11 (Fig. 2) may be passed easily through the aligned openings 2 to serve as a common axis. Any desired series of the members then may be swung or fanned out about the axis on rod 11' or 11 into partially exposed positions as seen in Fig. 1 or Fig. 2.

The group of members 1 thus assembled may be held for storage use by means of a retainer bracket 13, 13', or the like which is preferably made of a sheet metal strip of desired width providing a base upon which the members rest and having resilient upstanding ends each formed by bending a leg 13*a* upward at right angles to the base and then rebending a shorter leg 13*b* downward toward the base in spaced relation to leg 13*a*. The bracket 13 of Figure 2 is made approximately as wide as the end to end width of the assembled members 1 retained by this bracket, which serves as a container or cabinet having open sides and top. The inner legs 13*b* of bracket 13 are each formed with an opening 12 to receive an end of the axle member or rod 11, which is thus held removably by ends of the bracket and which holds the group or collection of swingable members to the bracket by extending through their aligned openings 2.

From what has been described, it will be evident that any of the members 1 in the assembly of Fig. 2 may be moved or turned out of its normal position of alignment with the other members by engaging and moving an upper corner thereof with a finger-tip, or by movement of a tab such as tab A, D or H secured at the fold line 7. Since leaves 3 and 8 of the interleaved members are shorter than their respective body leaves 6, the initial movement of one member away from normal position need produce no movement of an adjacent member, and the one member first becomes fanned out or angularly offset with respect to the others. When, however, one member has been moved a predetermined angle out of normal position, as determined by the spacing of its lower fold line 5 from the diagonal edge 10 on leaf 8 of an adjacent interleaved member, a further movement of the one member away from normal position produces a corresponding swinging movement of the adjacent member; and as the swinging movement of the one member proceeds still farther the interleaved members of a series of such members are brought successively to a fanned out position with each member of the series at a predetermined angular spacing with respect to an adjacent member. In other words, as seen from Fig. 2, a definite part of each member of the series is thus exposed with the diagonal edge 10 of each member abutting the fold line 5 of an adjacent member and with the fold lines of the several members disposed as lines of tangency to different radii of a common arc having its center at the axis of the aligned openings 2. It will be evident, furthermore, that the number of swingable or receiving members thus to be fanned out of normal position is determined by the arc of movement of the leading member and the angle of separation between their edges 10 and folds 5, and that the fanning out of all of the interleaved members of a very large collection or group thereof may be brought about through progressive stages of movement of members spaced at different locations along the common axis of the group.

The swingable index members 1 in an assembly of the type described may themselves carry data for file or indexing purposes on the triangular portions thereof that become exposed when the members are fanned out as described. In addition, however, these members as here shown are adapted to receive separate cards 19 in the open pockets formed inside their respective folds 5, i. e., in the pocket of each fold 5 between the body leaf 6 of one member and the adjacent back leaf 8 of another member.

The cards 19 may be of a standard form commonly used in index or card systems, and a part of each card may be exposed by fanning out its receiving member in the manner above described. Further, since the pocket of each member is open both at the top side and at an end to receive or release a card, the inspection of all data on any card or the revision of such data is accomplished by simply pulling the card out of its pocket, without having to disconnect or change mechanically any element of the system. Any card 19 also may be offset from the assembly for reference by simply sliding it endwise so that it projects from an end of its pocket. Since definite parts of the areas of all the cards 19 held in the system may be exposed serially by simply fanning out the receiving members as desired, it will be evident that this invention provides a simple and highly effective means for ascertaining index data by inspection, for listing index data and for performing other services of an index or card system.

The vane 14, or two or more of such vanes if desired, may be used to advantage where there is very large number of receiving members or receiving members and cards between the ends of the retaining bracket 13. The vane 14 is preferably a piece of rigid sheet material, such as metal, of about the same size as each receiving member and having a rigid tube or sleeve 15 soldered or otherwise fastened at right angles to its plane so as to align with the openings 2 of members 1. The sleeve 15 thus may extend into openings 2 of adjacent receiving members and receive their common axle member or rod 11 or 11', the vane thus being swingably at right angles to the rod and the retaining bracket so as to keep the members 1 from leaning too much forward or backward out of their normal planes in use. Each vane 14 preferably is assembled inside a fold of an adjacent receiving member so that the vane may swing freely with such member and hold a number of members 1 square to their axis even in their fanned out positions.

The form of construction illustrated in Figure 1 embodies an assembly of receiving members and cards like those described with reference to Figure 2, together with a retaining bracket 13' and a vane 14 similar to elements of Figure 2, but Figure 1 also embodies a more elaborate arrangement in which a special folding cabinet

is employed to facilitate the use of the system and to enclose its receiving members and cards when they are not in use.

The cabinet as shown in Figure 1 comprises a box portion 18 having an open side and top, a swingable side or base portion 21 hinged to the bottom of the open side, and a lid portion 16 hinged to portion 21. The box portion 18 has a bottom wall, a fixed side wall 26 and relatively fixed front and back end walls. The swingable side 21 is hinged along line 23 to the free edge of the bottom wall, so that it can be disposed at an open position as in Figure 1, where it serves as an extension of the bottom wall, or can be swung to a closed position over the open side of the box portion. In its closed position a longitudinal flange 22 thereon overlies part of the open top of the box portion. The lid portion 16 is hinged at 24 to flange 22 and completes the enclosure of the cabinet contents in closed position.

The retaining member or bracket 13' in Figure 1 holds the receiving members in a manner similar to bracket 13 in Figure 2, but it is narrower and is arranged as a part of the swingable side or base portion 21 so that it has two different positions with respect to the box portion 18. Rivets 25 or the like secure bracket 13' to the inner face of side 21 at a location near the hinge line 23. The rod-receiving openings 12' in the shorter legs of bracket 13' are so located with respect to hinge line 23 that the receiving members 1 held on rod 11' may rest on the bottom of box portion 18 in either the opened or the closed position of side 21. The receiving members and cards are completely enclosed and protected within the folding cabinet when side 21 and lid 16 are enclosed; but when the latter are swung open the contents of the cabinet are exposed in an advantageous working condition. The group of receiving members held on rod 11' is thus shifted laterally to a position where the ends of the members project from the open side of the box portion and leave space between their opposite ends and side wall 26 of the box portion as seen in Fig. 1. Any desired one or number of the cards 19 then may be offset into this space by hand, for reference or indexing purposes.

Furthermore, the entire group of receiving members and cards or any desired portion of the group may be upended to the position seen in the background of Fig. 1, where the ends thereof near to rod 11' i. e., their respective end edges 3e, 6e and 8e, rest upon the opened side or base member 21. This upended position also may be obtained at the outset by opening the cabinet as it rests on side 21. From such upended position the receiving members and cards may be swung or fanned back to their normal position within box portion 18 as desired in the use of the system.

A further feature of the folding cabinet construction resides in its provisions for easy assembly of a large group of loosely interleaved receiving members 1 upon the axle member or rod 11' by which they are held and about which they may be swung in use. For this purpose, an end flange 20 on the hinged side 21 may be provided with a small opening 20a spaced from flange 22 and the inner face of side 21 in accordance with the spacing of the opening 2 of each receiving member from its fold line 5 and end edge 6e. Accordingly, when the receiving members 1 are to be aligned and fastened in

place, or when individual members are to be inserted among them, the entire group of loosely interleaved members may be moved and tapped by hand so that all their end edges 6e butt in alignment against flange 22. The rod 11' then may be inserted through opening 20a and thence through the openings 2 of the many receiving members, whereupon the members thus assembled on the rod may be shifted laterally into box portion 18 and the rod 11' may be engaged in the bracket holes 12' to complete the cabinet assembly.

The inside of lid 16 may be provided with an attached pocket index 17 of celluloid or other suitable material, which exposes data for use in parallel relation to the data on cards 19 or members 1 when the folding cabinet is open. An indexed sheet having subject data properly spaced on it can be readily inserted into or removed from pocket 17. The front end of the cabinet may have a knob 27 to use in pulling the closed cabinet out from a plurality of similar cabinets on a shelf or desk. The outer side of the end flange 20 on side 21 accommodates a label 28 for indexing each cabinet.

The receiving member illustrated in Figure 3 is the preferred form inasmuch as it may be cut to shape in large quantities and folded by means of a standard folding machine.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departure from the spirit of the invention. I therefore do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

Having described my invention, what I claim as new is:

1. An index system comprising a plurality of individual substantially flat index members positioned as a group in face to face arrangement, said members having a common axis of rotation transverse to their planes and about which any of said members may be turned in its plane, the body of each of said members having a projection at one side thereof from a lower portion thereof and a projection at the other side thereof from an upper portion thereof, the last mentioned projection of one member being disposed in the path of turning movement of the first mentioned projection of an adjacent member so that a series of said members may be fanned out by turning one of said members about said axis.

2. An index system comprising a plurality of individual substantially flat index members positioned as a group in face to face arrangement, said members having a common axis of rotation transverse to their planes and about which any of said members may be turned in its plane, each member comprising a body leaf and shorter leaves folded back upon opposite sides of the body leaf from opposite side edges thereof, one of the folded leaves of each member lying inside a fold of an adjacent member and having a free edge to abut against said fold at a predetermined angular spacing of the adjacent members about said axis, so that a series of said members may be fanned out by turning one of said members about said axis.

3. An index system comprising a plurality of individual substantially flat index members positioned as a group in face to face arrangement, said members having a common axis of rotation

transverse to their planes and about which any of said members may be turned in its plane, each member comprising a body leaf and shorter leaves folded back upon opposite sides of the body leaf from opposite side edges thereof, one of the folded leaves of each member lying inside a fold of an adjacent member and having a free edge to abut against said fold at a predetermined angular spacing of the adjacent members about said axis, so that a series of said members may be fanned out by turning one of said members about said axis, each member providing an open pocket to receive an index card between its body leaf and one of its folded leaves so that portions of the cards received by several members are separately exposed by fanning out the respective members.

4. An index system comprising a plurality of similar individual substantially flat index members positioned face to face as a group with edges of the respective members normally in alignment, an axis of rotation common to said members extending transverse to their respective planes near a corner thereof, each member being freely swingable in its plane about said axis, the body of each member having a projection at one side thereof from a lower edge thereof and a projection at the other side thereof from an upper edge thereof, the last mentioned projection of one member being disposed in the path of swinging movement of the first mentioned projection of an adjacent member so that upon swinging one of said members about said axis a series of said members may be fanned out from the group through the successive abutment of projections of the respective members.

5. An index system comprising a plurality of similar individual substantially flat index members positioned face to face as a group with side edges of the respective members normally in alignment, each member having an opening therethrough near a corner thereof, the openings of all members of the group being in alignment, an axle member extending through said openings about which any of said members may be swung in its plane, each member comprising a body leaf and shorter leaves folded back upon opposite sides of the body leaf from opposite side edges thereof, one of the folded leaves of each member lying inside a fold of an adjacent member and having a free edge to abut against said fold at a predetermined angular spacing of the two members about said axle member, so that a series of said members may be fanned out by swinging one of them about said axle member.

6. An index system comprising a plurality of similar individual substantially flat index members positioned face to face as a group with side edges of the respective members normally in alignment, each member having an opening therethrough near a corner thereof, the openings of all members of the group being in alignment, an axle member extending through said openings about which any of said members may be swung in its plane, each member comprising a body leaf and shorter leaves folded back upon opposite sides of the body leaf from opposite side edges thereof, one of the folded leaves of each member lying inside a fold of an adjacent member and having a free edge to abut against said fold at a predetermined angular spacing of the two members about said axle member, so that a series of said members may be fanned out by swinging one of them about said axle member, said free edge of each member extending diagonally at an angle to the fold lines thereof so that said free edge and said fold of an adjacent member abut in parallel relation at said angular spacing of the two members.

7. An index system comprising a plurality of similar individual substantially flat index members positioned face to face as a group with side edges of the respective members normally in alignment, each member having an opening therethrough near a corner thereof, the openings of all members of the group being in alignment, an axle member extending through said openings about which any of said members may be swung in its plane, each member comprising a body leaf and shorter leaves folded back upon opposite sides of the body leaf from opposite side edges thereof, one of the folded leaves of each member lying inside a fold of an adjacent member and having a free edge to abut against said fold at a predetermined angular spacing of the two members about said axle member, so that a series of said members may be fanned out by swinging one of them about said axle member, said free edge of each member extending diagonally at an angle to the fold lines thereof so that said free edge and said fold of an adjacent member abut in parallel relation at said angular spacing of the two members, each member providing an open pocket to receive an index card between its body leaf and one of its folded leaves so that portions of the cards received by several members are separately exposed by fanning out the respective members.

8. An index system comprising a plurality of similar individual substantially flat index members positioned face to face as a group with side edges of the respective members normally in alignment, each member having an opening therethrough near a corner thereof, the openings of all members of the group being in alignment, an axle member extending through said openings about which any of said members may be swung in its plane, each member comprising a body leaf and shorter leaves folded back upon opposite sides of the body leaf from opposite side edges thereof, one of the folded leaves of each member lying inside a fold of an adjacent member and having a free edge to abut against said fold at a predetermined angular spacing of the two members about said axle member, so that a series of said members may be fanned out by swinging one of them about said axle member, each member providing an open pocket to receive an index card between its body leaf and one of its folded leaves so that portions of the cards received by several members are separately exposed by fanning out the respective members, and a substantially rigid flat vane disposed within said group in facing relation to members thereof and carried swingably by such axle member at an angle thereto so as to prevent objectionable swaying of said members from their planes of swinging movement.

9. An index member for a card or index system of the character described, comprising a piece of sheet material having a body leaf and shorter leaves folded back upon opposite sides of the body leaf from parallel fold lines at its side edges and an opening through the member near a corner thereof, one of said folded leaves having a free edge diagonal to said fold lines, so that a plurality of said members may be interleaved in face to face arrangement with their respective fold lines and openings in alignment, may each receive an index card between its body leaf and a folded leaf, and may be fanned out in series about

an axis through said openings by abutment of the respective diagonal edges against respective folds of adjacent members.

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