Sept. 6, 1932. E. W. DAVIS 1,876,207

CARD INDEX

Filed Jan. 11, 1927 2 Sheets-Sheet 1

Fig. 1.

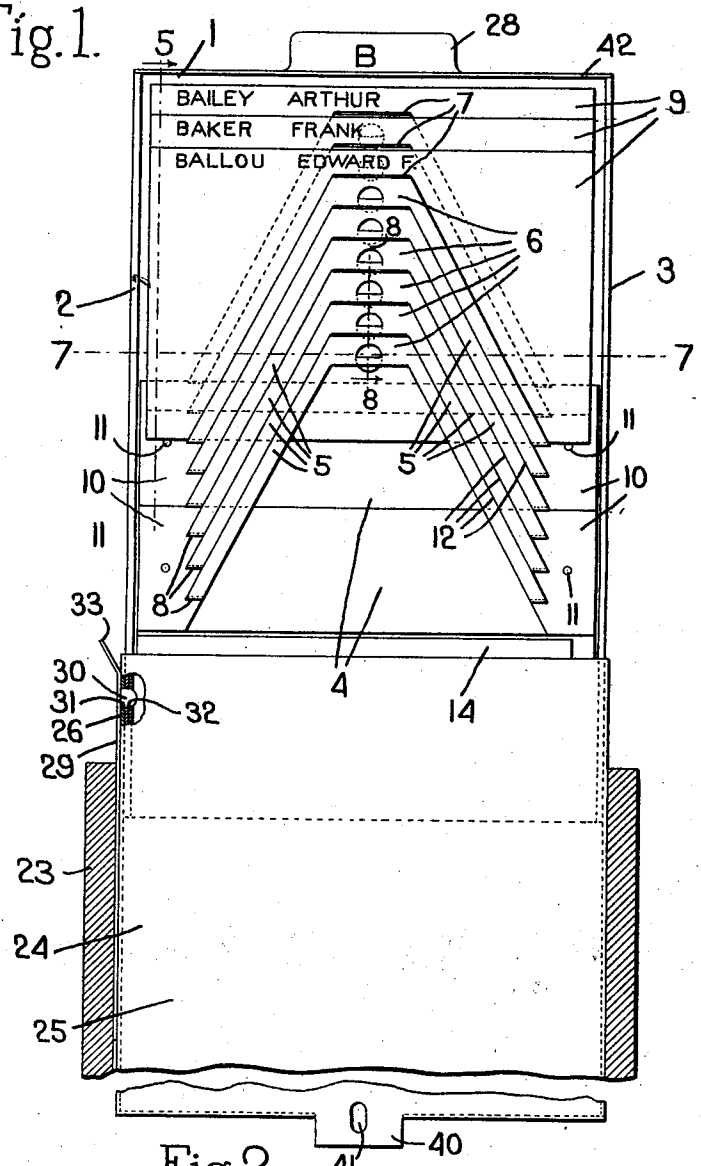


Fig. 2.

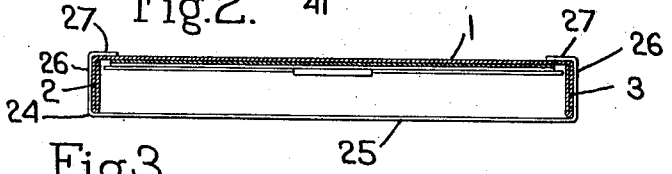
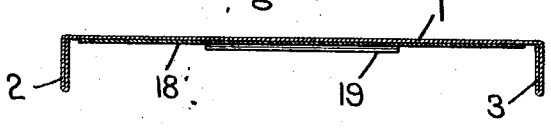


Fig. 3.



Inventor.
Elmer W. Davis
by Heard Smith & Tennant
Attys.

Sept. 6, 1932. E. W. DAVIS 1,876,207

CARD INDEX

Filed Jan. 11, 1927 2 Sheets-Sheet 2

Fig.5.

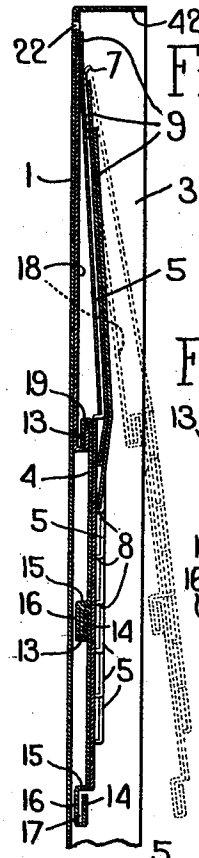


Fig.6.

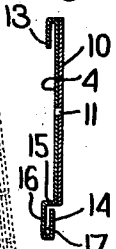


Fig.4.

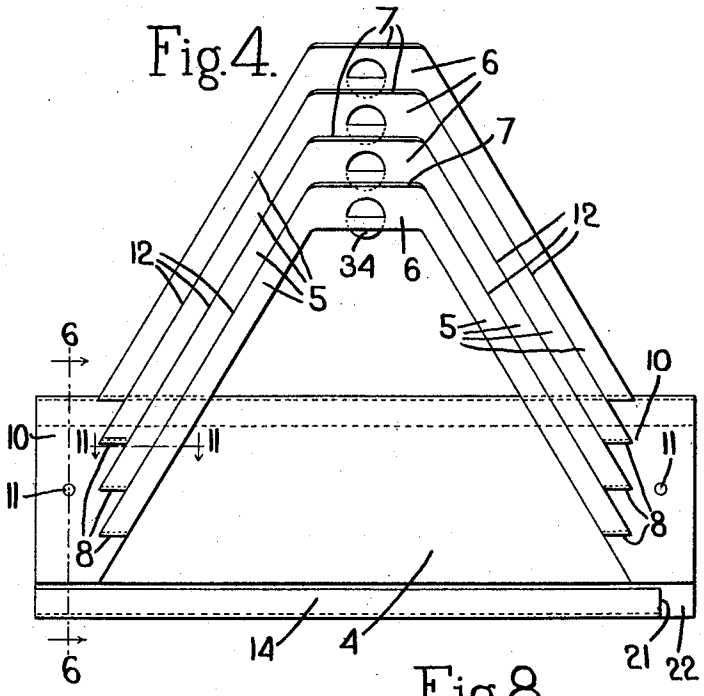


Fig.8.

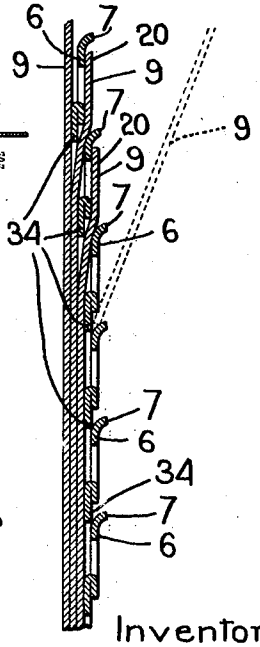


Fig.7.

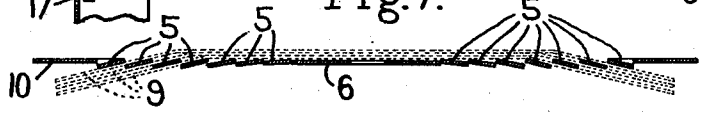


Fig.9.

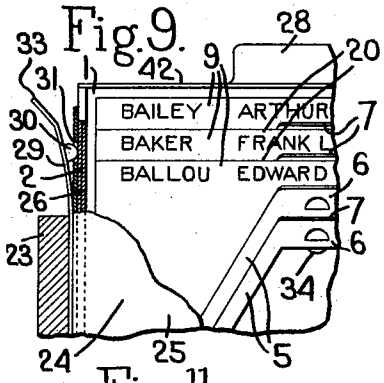


Fig.10.

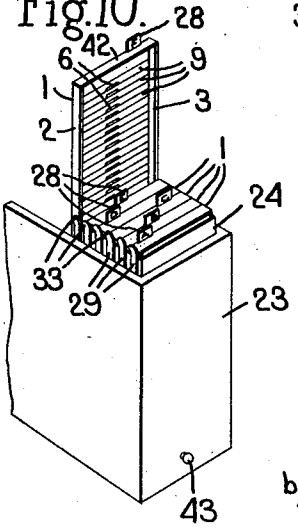
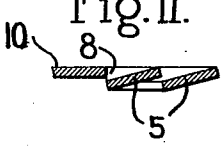


Fig.11.



Inventor.
Elmer W. Davis
by Heard Smith & Tennant.
Attys.

Patented Sept. 6, 1932 1,876,207

UNITED STATES PATENT OFFICE

ELMER W. DAVIS, OF NEWTON CENTER, MASSACHUSETTS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO REMINGTON RAND INC., OF BUFFALO, NEW YORK, A CORPORATION OF DELAWARE

CARD INDEX

Application filed January 11, 1927. Serial No. 160,490.

This invention relates to card indexes and particularly to that type of card index in which the cards are retained in overlapping relation by means of card-holding members which are carried by a panel or backing member.

One of the objects of the invention is to provide a novel card index of this type in which each card-holding member is supported entirely by an adjacent card-holding member and in which the connected card-holding members form a self-supporting unit which can be detached from the panel and transferred bodily to another panel without disturbing the cards carried by the card-holding members and without disturbing the relation between the card-holding members.

A further object of the invention is to provide a novel card index in which one or more connected card-holding members may be removed from the panel and from the other card-holding members thereon without disturbing the cards carried by the removed members or without danger that the removed card-holding members will become disconnected.

A card index embodying the invention has the advantage that whenever it is desired to transfer a group of cards from one panel to another, as frequently happens in expanding or rearranging a card index, said group may be transferred as a unit by simply disconnecting from the card holders on the panel the particular group of card holders to be transferred and then transferring them bodily and as a unit to the other panel. This transfer can be easily effected without disturbing the cards being transferred.

A further object of the invention is to provide a card index of this type which is so constructed that the transverse space or thickness of the combined holding members and cards is reduced to a minimum thus reducing the space required to receive the index.

A further object of the invention is to provide a card index of this type in which each panel with the cards carried thereby is received in an individual container or sleeve that is open at one end and is arranged so that the panel may be withdrawn from the open end thereby to expose the cards. These containers or sleeves may conveniently be placed in a tray or drawer or other receptacle and being independent from each other any sleeve with its panel can be shifted from one position in the drawer or tray to another position without disturbing the other panels.

One convenient way of supporting these sleeves is in an upright position with the open end at the top, although I desire it to be understood that this is only a suggested arrangement and that the invention includes the panels each supported in a sleeve or holder regardless of the position in which the sleeves are supported.

When these sleeves are supported in an upright position access to the cards on any panel is obtained by raising the panel in its sleeve or container.

Another feature of my invention relates to means by which any panel is automatically locked in its raised position with its cards exposed when it is thus elevated. An advantage of this feature is that when any panel is thus raised the operator has both hands free to manipulate the cards.

Other objects of the invention are to improve card indexes in various ways all as will be more fully hereinafter set forth.

In order to give an understanding of the invention I have illustrated in the drawings a selected embodiment thereof which will now be described, after which the novel features will be pointed out in the appended claims.

Fig. 1 shows a card index embodying my invention, said figure being in the nature of an enlarged vertical section through the tray 23 with one of the panels raised;

Fig. 2 is a cross-sectional view through the container or sleeve with the panel therein;

Fig. 3 is a cross sectional view of the panel;

Fig. 4 is a view of one of the card-holding members;

Fig. 5 is a vertical section through the upper end of the panel on the line 5—5, Fig. 1;

Fig. 6 is a section on the line 6—6, Fig. 4;

Fig. 7 is a horizontal cross sectional view through a plurality of assembled card-hold-

ing members taken substantially on the line 7—7, Fig. 1;

Fig. 8 is a section on the line 8—8, Fig. 1;

Fig. 9 is a fragmentary view illustrating the position of the catch when the panel is in its lowered position;

Fig. 10 is a perspective view of a tray or drawer having a plurality of containers or sleeves therein, each supporting a panel.

Fig. 11 is an enlarged section on the line 11—11, Fig. 4.

As stated above my invention relates to that type of card indexes in which the cards are supported in overlapping relation by card-holding members carried on a panel. The card-holding members are arranged to be supported one from another in a series, each card-holding member being supported entirely by an adjacent card-holding member and one of the card-holding members of the series, preferably an end member, being detachably connected to the panel. The connection between the card-holding members is a readily detachable one so that any card-holding member or group of card-holding members can be removed from the panel, and the construction is such that two or more connected card-holding members can be removed as a unit without disturbing the cards carried thereby.

The panels may be constructed in various ways without departing from the invention. I will preferably, however, make each panel of a sheet of metal or similar material and in Figs. 1, 2, 3 and 5 one of the panels is indicated at 1. It is shown herein as formed at each edge with a flange, the flanges being indicated at 2 and 3 respectively. When the card holders and cards are connected to the panel they will be normally confined between the flanges 2 and 3.

Each card-holding member may be constructed to hold one or more cards as desired. In Fig. 4 I have shown a card-holding member designed to hold four cards 9 although the card-holding member may be constructed to receive a greater or less number of cards without in any way departing from the invention.

The card-holding member herein illustrated is provided with a base portion 4 which is constructed to be interlocked or connected with the base portion of another card-holding member. Each card-holding member herein shown is also provided with means for supporting one or more cards, and such means may be such as to support the cards either in upstanding or in down-hanging position. In the illustrated embodiment of the invention the cards are retained in position by upstanding card retainers or frames designed to receive the cards in upstanding relation. Said card retainers may have any desired shape or construction. In the illustrated embodiment of the invention each card retainer is formed with the two side arms 5 which are connected at their lower ends to the body 4 and are connected at their upper ends by a bridge piece 6. Each card-holding member may have one or more of these card retainers and may thus support one or more cards 9.

Each card is placed directly behind its card retainer and is held in position between the retainer in front of the card and the next retainer which is directly in back of the card. In the illustrated embodiment of my invention each card-holding member is provided with four card retainers and is thus adapted to support four cards 9.

The arms 5 of each card retainer are shown as inclined upwardly and inwardly toward each other and the upper edge 7 of the bridge portion 6 of each card retainer is preferably curved outwardly slightly to facilitate the insertion of the card into the space behind the card retainer. The lower end of each arm 5 is offset slightly from the base portion 4 as shown at 8, the offset being greatest at the outer edge of the arm and being least at the inner edge of the arm. The offset at the outer edge should be at least as great as the thickness of each card 9. As a result of this construction the lower end of each arm 5 occupies a plane which is inclined to the plane of the base 4 and to the panel while the upper end of each arm that connects to the bridge will occupy a plane substantially parallel to the base. Each arm 5 is thus twisted slightly between the top and the bottom.

As a result of this construction when any card 9 is placed behind the arms 5 of any card retainer the card will assume a curved shape, the center portion of each card curving backwardly into the space between the arms 5. This is illustrated in Fig. 7 wherein the cards are shown in dotted lines in order not to confuse the drawing. The advantage which accrues from this arrangement is that the total thickness from front to back of the cards on a panel is reduced considerably because any two adjacent cards are separated from each other only by the arms 5 and these cover only a small portion of the area of the card so that the greater portion of each card area can lie flatly against the adjacent card.

The arms 5 may be secured to the base 4 in any appropriate way. One convenient way is to strike up the arms and bridge portion of each card retainer from a piece of sheet metal 10, the end portions of the sheet-metal being secured to the ends of the base member 4 in any suitable way as by means of rivets 11. These card retainers may be readily made by subjecting a blank of sheet-metal to the action of a properly-formed die which will cut slits 12 in the sheet metal thereby forming the arms 5 and at the same

time deforming the sheet to produce the offset portion 8 and the curved edge 7 at the top of the bridge portion.

As stated above the card-holding members are designed to be supported one on the other in a vertical row, each card-holding member constituting the entire support for the adjacent card-holding member. One construction which permits of this is herein shown wherein each card-holding member is formed on its back face at its upper edge with a downturned lip 13 and at its lower edge with an upturned lip 14 which is adapted to have interlocking engagement with the downturned lip 13 of another card-holding member.

In forming the lip 14 the material of the base 4 is bent backwardly as shown at 15, then is bent downwardly as shown at 16 and then is bent upwardly again as shown at 14, the upstanding lip 14 being back of the plane of the body 4 and being spaced from the portion 16 as shown at 17. With this arrangement any two card-holding members may be connected together by sliding the lip 13 of one card-holding member into the space 17 between the upstanding lip 14 and the part 16 of the other card-holding member and thus a plurality of card-holding members may be connected together in a vertical row or series. This connection between the card-holding members is such that each member is supported entirely by an adjacent member and connected members form a self-supporting unit. If two, three or more card-holding members are connected together they may be shifted from one position to another as a unit and without disturbing their relation and without disturbing the arrangement of the cards which are supported by the card-holding members.

A plurality of connected card-holding members are secured to each panel and are preferably supported from one end. In the illustrated construction the connected card-holding members are suspended from the upper portion of the panel, the upper card-holding member of the series being detachably secured to the panel and the other card-holding members being suspended one from the other. For thus suspending the card-holding members on the panel I have shown the panel as having secured thereto a supporting member 18 which is secured to the panel and which has at its lower edge an upturned lip 19 on which the downturned lip 13 of the upper card-holding members of the series may be supported.

Where each card-holding member has a plurality of card retainers thereon, as herein shown, the upper and lower card retainer on each member are so situated that when any two members are connected together the upper card retainer of the lower member fits into and just below the lower card retainer of the upper member so that as the card-holding members are connected together a series of equally-spaced card retainers is provided. The vertical spacing of the card retainers 5 is the same as that desired for the cards 9 and when the cards are arranged in the pockets formed by the card retainers the cards will have the overlapping relation shown in Fig. 1, the upper end of each card projecting above the upper edge of the next lower card by an amount equal to the spacing of the card retainers. When the card-holding members have been thus assembled together and connected to the panel 1 then individual cards 9 may be readily inserted into the pockets formed by the card retainers as shown in Figs. 1 and 5 and 8. The curved upper edge 7 of the bridge portion of each card retainer facilitates the insertion of the card into place and when any card is inserted it is received between the arms 5 of one card retainer and those of the next adjacent card retainer, the bottom edge of the card resting on the offset portion 8.

Because of the special shape of the offset portions 8 and the inclined arrangement of the arms 5 the cards when inserted will be curved more or less in a transverse direction so that the center of each card occupies the same plane as the arms 5 directly in front of it, thus reducing considerably the total thickness of the assembled cards and card retainers on any panel.

The card retainers are preferably of such a size that the upper edge 7 of each retainer will come slightly below the upper edge 20 of the card which is retained thereby so that the complete upper edge portion of each card is visible. In a card system of this type the name, address or other identifying data will be placed on the upper edge of the card as shown in Fig. 1, and when the cards are inserted in the card-holding members they are arranged in overlapping relation with their upper edges exposed. When the card-holding members are assembled on the panel they are received between the wings 2 and 3 of the panel, these wings serving to prevent any lateral movement of the cards 9 in the card-holding members.

The card index of this construction is very elastic as one or more of the card-holding members may be applied to each panel. Any two card-holding members can be readily connected together by slipping the lip 13 of one member into the space 17 of another member, this being done by a relative movement of the members in the plane thereof. It will be noted that the upturned lip 14 does not extend the full length of said member, each lip terminating at a point 21 inside the end of the supporting member. An advantage of this is that it facilitates the connecting of any two card-holding members, for the upper left-hand corner of the lip 13 of

one card-holding member may be placed against the portion 22 of another card-holding member and then the two members may be moved relative to each other in the plane thereof thereby to slide the lips 13 and 14 into their interlocking engagement.

The entire row or series of card-holding members supported by any panel may be readily removed therefrom as a unit by simply withdrawing the upper card-holding member from the supporting lip 19. To permit this to be done the row of card-holding members must be moved away from the panel sufficiently to clear the flanges 2 and 3. To provide for this I propose to make the supporting member 18 of flexible material and to connect it at its upper end to the panel as shown at 22, the member 18 being free from the panel below its point of connection. With this construction the entire row of card-supporting members may be swung outwardly away from the panel as a unit as shown by dotted lines Fig. 5, the flexibility of the supporting member 18 permitting this. When the card-holding members are thus swung outwardly sufficiently to clear the flanges 2 and 3 then the entire row of card-holding members may be removed from the panel by simply sliding them laterally to withdraw the lip 13 of the upper card-supporting member from the lip 19.

Similarly, the lower card-holding member or the lower two or three or more card-holding members can be disconnected as a unit from the other card-holding members by swinging the row of card-holding members outwardly away from the panel sufficiently to clear the flanges 2 and 3.

The removal of the entire row of card-holding members or any number of connected card-holding members can be accomplished without disturbing in any way the cards carried thereby and, therefore, any card-holding member or any number of connected card-holding members can be transferred from one panel to another in a very short time and without any rearrangement of the cards.

If it is desired to add additional cards at a point between the top and the bottom of the series of cards carried by any panel then the card-holding members below the point where the additional cards are to be inserted can be withdrawn as a unit from the card-holding members remaining on the panel and one or more empty card-holding members may be attached to the card-holding members on the panel after which the withdrawn card-holding members may be replaced, this whole operation being accomplished without disturbing the cards in any way. The additional cards may then be inserted in the empty card-holding members and thus the card-holding capacity of any panel may be expanded by the insertion of cards in the central portion of the panel and without the necessity of handling the cards individually that are to be moved to permit the new cards to be inserted.

Each individual panel 1 is herein shown as carried by a container or sleeve which is open at one end to permit the panel to be withdrawn therefrom. These containers or sleeves are separate from each other, each container with its contained panel constituting a unit. These containers or sleeves may be placed in a drawer or tray or supported in any desired way and they may be arranged either vertically or horizontally as desired and as most convenient. In the illustrated embodiment of my invention they are arranged in upright position in a drawer with the open end at the top. Each sleeve or container is indicated at 24 and the drawer or tray in which they are supported is indicated at 23.

Each sleeve is herein shown in the form of a shell having a front face 25 and sides 26, said sides being formed at their back edges with inturned lips 27. Each panel is retained between the front face 25 and the lips 27 and is slidably mounted in the sleeve. Each panel is slightly longer than its holding sleeve so that when the panel is in its lowered position the upper edge thereof will project slightly above the sleeve. Each panel is also provided at its upper end with a tab 28 which may be in the nature of an index tab and which also provides a finger piece by which the panel may be raised as shown in Fig. 10 thereby to expose the upper edges of all the cards carried thereby.

I have provided herein means for automatically locking each panel in its raised position thereby holding it in elevated position with the cards exposed so that the user of the device may readily select the card which he is looking for. This locking device is in the form of a spring latch comprising a resilient arm 29 secured to the edge of the sleeve and carrying a locking portion 30 that operates through an opening 31 formed in the side 26 of the sleeve. The flange 2 of the panel has an opening 32 in its lower portion. When the panel is in its lowered position the locking member 30 merely rests against the flange 2 as shown in Fig. 9. When the panel is raised to expose the cards to view then as soon as the aperture 32 comes into alignment with the locking member 30, the latter will snap into the aperture and thus lock the panel elevated. In this position all the cards on the panel are exposed to view and access is provided to any card.

When it is desired to reinsert the panel into its containing sleeve the locking latch may be withdrawn by pressing outwardly on the finger piece 33 at the upper end of the arm 29 thereby withdrawing the locking member 28 from the aperture 29. The panel will then

gravitate to its lowered position. This locking device thus holds the panel elevated so that the user of the system may have both hands free for either removing cards or inserting cards or otherwise manipulating them.

I have also herein illustrated means for detachably retaining the sleeves or containers 24 in a drawer or tray 23 so that each panel may be raised out of its sleeve without danger that the sleeve will be lifted from the tray in case the panel should stick in the sleeve. Each sleeve is provided at its lower end with a tab 40 that is formed with an opening 41 adapted to receive a locking rod 43 that extends longitudinally of the tray 23 at the bottom. This locking rod 43 is similar to the rod which is commonly used for locking cards in a drawer and it extends through the slots 41 of all the sleeves thus holding them in position. Any sleeve, however, can be readily removed by first withdrawing the rod so as to unlock the sleeve and then elevating the sleeve from the tray. The locking rod 43 prevents any sleeve from being lifted out of the tray accidentally when the panel is to be raised in case the panel should stick at all.

The upper end of each panel is provided with a flange 42 and these flanges are of such a dimension that when the panels are all inserted into the sleeves the flanges 42 practically meet each other thus closing up any openings between the panels.

Each bridge portion 6 is formed with a depending tab 34 which is of a shape to engage the bridge portion of the card retainer next below and this tab prevents the arms 5 and bridge 6 of any card retainer from being forced through the card retainer directly above and thus eliminates any possibility that the cards may be wrongly inserted.

I claim:

1. In a card index, the combination with a panel, of a series of connected card-holding members, each having non-pivoted card-supporting means and each member except one of the end members of the series being supported entirely by one of the members connected thereto, and means for connecting said end member to the panel.

2. In a card index, the combination with a panel, of a series of connected card-holding members, each having non-pivoted means for removably supporting a card and each member except one of the end members of the series being supported entirely by one of the members connected thereto, and means for detachably connecting said end card-holding member of the series to the panel.

3. In a card index, the combination with a panel, of a series of connected card-holding members, each adapted to support a card in upstanding position with its upper edge free, and each card-holding member except one of the end members of the series being supported entirely by one of the card-holding members to which it is connected, and means for detachably securing said end member of the series to the panel.

4. In a card index, the combination with a panel, of a series of connected card-holding members, each adapted to support a card in upstanding position with its upper edge free, and each card-holding member except one of the end members of the series being supported entirely by one of the card-holding members to which it is connected, and means for detachably securing said end card-holding member of the series to the panel.

5. In a card index, the combination with a panel, of a plurality of card-holding members, the upper edge of each member having a shape to interlock with the lower edge of the member above, and each member except one of the end members of the series being supported entirely by an adjacent member, and means for detachably connecting said end card-holding member of the series to the panel.

6. In a card index, the combination with a panel, of a series of connected card-holding members, each having provision for detachably supporting a card and each except the upper one of the series being supported entirely by the member above, and means for detachably connecting said upper card-holding member of the series to the panel.

7. In a card index, the combination with a panel, of a series of card-holding members arranged one above another, each member having provision for detachably supporting a card and each except the upper one of the series being suspended from the member above, and means for detachably connecting said upper member of the series to the panel.

8. In a card index, the combination with a panel, of a plurality of card-holding members, each having up-standing card-retaining arms the upper edge of each member having a shape to interlock with the lower edge of a member above, whereby the card-holding members may be suspended one from the other, and means for detachably securing the upper card-holding member to the panel.

9. In a card index, the combination with a panel, of a plurality of card-holding members each having on its upper edge a downturned lip and on its lower edge an upturned lip, the downturned lip of each member adapted to interlock with the upturned lip of a member above, said panel having an upturned lip to engage the downturned lip of the upper card-holding member.

10. In a card index, the combination with a panel, of a plurality of card-holding members each adapted to hold cards in upstanding relation with their upper edges free, each card-holding member having at its upper edge means adapted to interlock with the lower edge of a card-holding member above, whereby the card-holding members may be sup-

ported one from another in a vertical series, and means for detachably securing the upper card-holding member to the panel.

11. In a card index, the combination with a panel, of a series of connected card-holding members each adapted to support a card in upstanding position with its upper edge free, each card-holding member except the top member of the series being supported entirely by the member above, and means for detachably connecting said top card-holding member of the series to a panel.

12. In a card index, the combination of a plurality of card holders arranged in overlapping relation, each having separated upstanding card-retaining arms, the lower end of each of said arms occupying a plane inclined to the general plane of the corresponding card holder, whereby the portion of the cards between the arms is bent backwardly.

13. A card index comprising a plurality of connected card-holders each having two upstanding card-retaining arms which are widely separated at their lower ends and are connected at their upper ends by a bridge portion, the lower portions of the arms being offset from the body of the card holder and occupying planes inclined to said body.

14. A card index comprising a series of separably connected card holders each having a plurality of pairs of upstanding card-retaining arms, the arms of each card holder overlapping one of the adjacent card holders the arms of each pair being widely separated at their lower ends with said lower ends offset from the body of the card holder and occupying planes inclined relative thereto.

15. In a card index, the combination with a vertically-arranged container open at the top, of a panel slidably mounted within the sleeve and capable of being elevated therefrom through the open top, a plurality of cards supported by said panel in overlapping relation, and a locking device to hold the panel in raised position.

16. In a card index, the combination with a vertically-arranged container open at the top, of a panel slidably mounted within the sleeve and capable of being elevated therefrom through the top, a plurality of cards supported by said panel in overlapping relation, and a spring catch to hold the panel in elevated position.

17. In a card index, the combination with a drawer or tray, of a plurality of open top containers, arranged in vertical relation in said tray, a panel slidably mounted in each sleeve and capable of being raised through the open top thereof, and a plurality of cards carried by each panel in overlapping relation.

18. In a card index, the combination with a drawer or tray, of a plurality of open top containers arranged in vertical relation in said tray, a panel slidably mounted in each sleeve and capable of being raised through the open top thereof, a plurality of cards carried by each panel in overlapping relation, and means for automatically locking each panel in its raised position when it is elevated.

19. In a card index, the combination with a receptacle, of a plurality of individually removable open-ended containers received in the receptacle and a card-carrying panel slidably mounted in each container and adapted to be withdrawn from the open end thereof.

20. In a card index, the combination of a plurality of card holders, each card holder comprising a base and a series of upstanding card retainers extending parallel thereto and mounted thereon for receiving index cards in spaced overlapped offset relation, said card holders being detachably connected to each other, the retainers of one card holder being arranged in adjacent relation to the retainers of the adjacent connected card holder whereby all of said retainers cooperate to support a series of cards in offset overlapping relation with substantially uniform visible margins.

21. In a card index, the combination of a plurality of detachably connected card holders, said card holders having flat base portions lying in a common plane, a plurality of card retainers on each base portion formed as angular frame members having spaced ends connected to said base portion, said frame members extending in parallel relation to said base portion and extending beyond one margin of said base portion, each retainer having the frame members arranged in adjacent edge-to-edge relation, the retainers on one card holder being arranged in adjacent relation to the retainers on the adjacent connected card holders, the retainers on all of said card holders being in a substantially common plane.

22. A card holder comprising a flat base having a plurality of card retainers, said card retainers being formed of a single piece of sheet material comprising end portions secured to said base, and angular frame members arranged in adjacent relation to each other and substantially parallel to said base, all of said frame members lying in a substantially common plane and having their ends integrally connected by said end portions.

23. A card holder comprising a base having a plurality of card retainers, said retainers being formed as a group of adjacent angular frame members having spaced ends connected to the base, each frame member conforming to the contour of adjacent frame members, all of the frame members being in a substantially common plane.

In testimony whereof, I have signed my name to this specification.

ELMER W. DAVIS.