

March 2, 1954

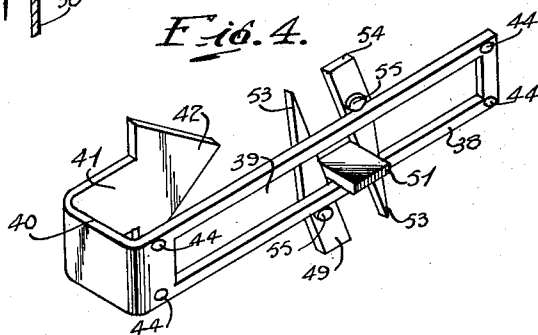
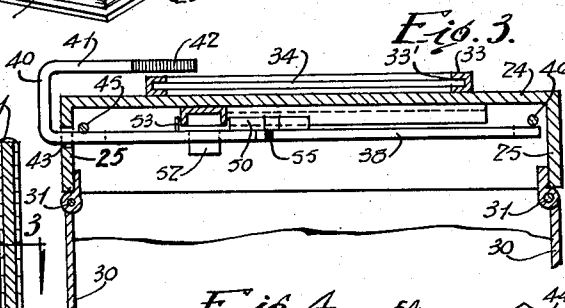
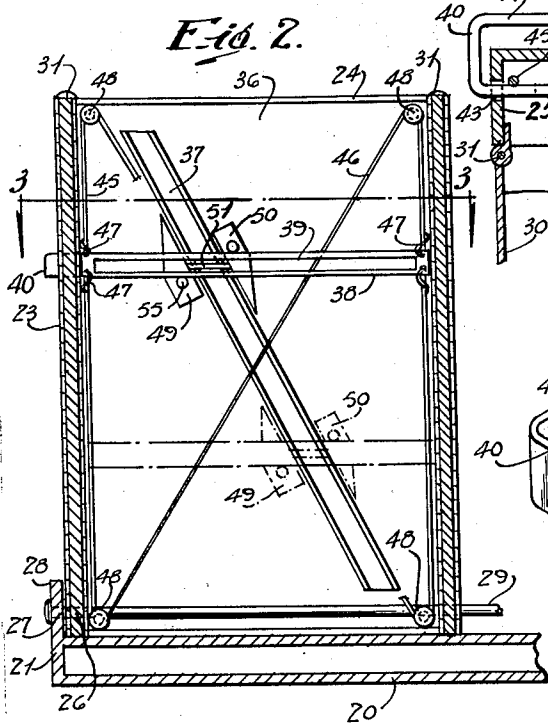
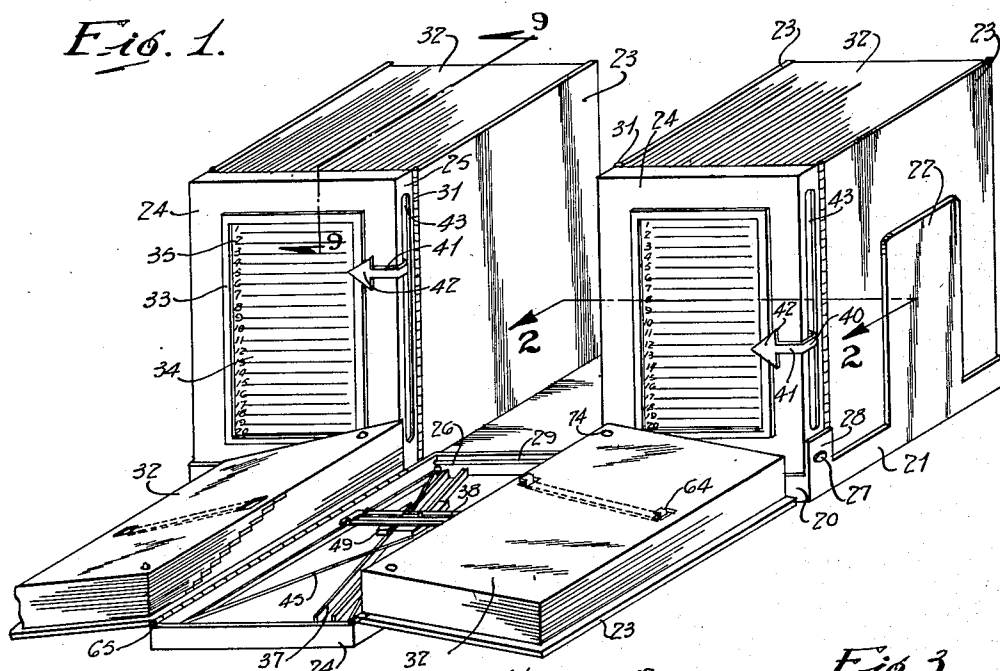
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2,670,553

BOOKRACK PAGE INDEX DEVICE

Filed Feb. 18, 1952

3 Sheets-Sheet 1



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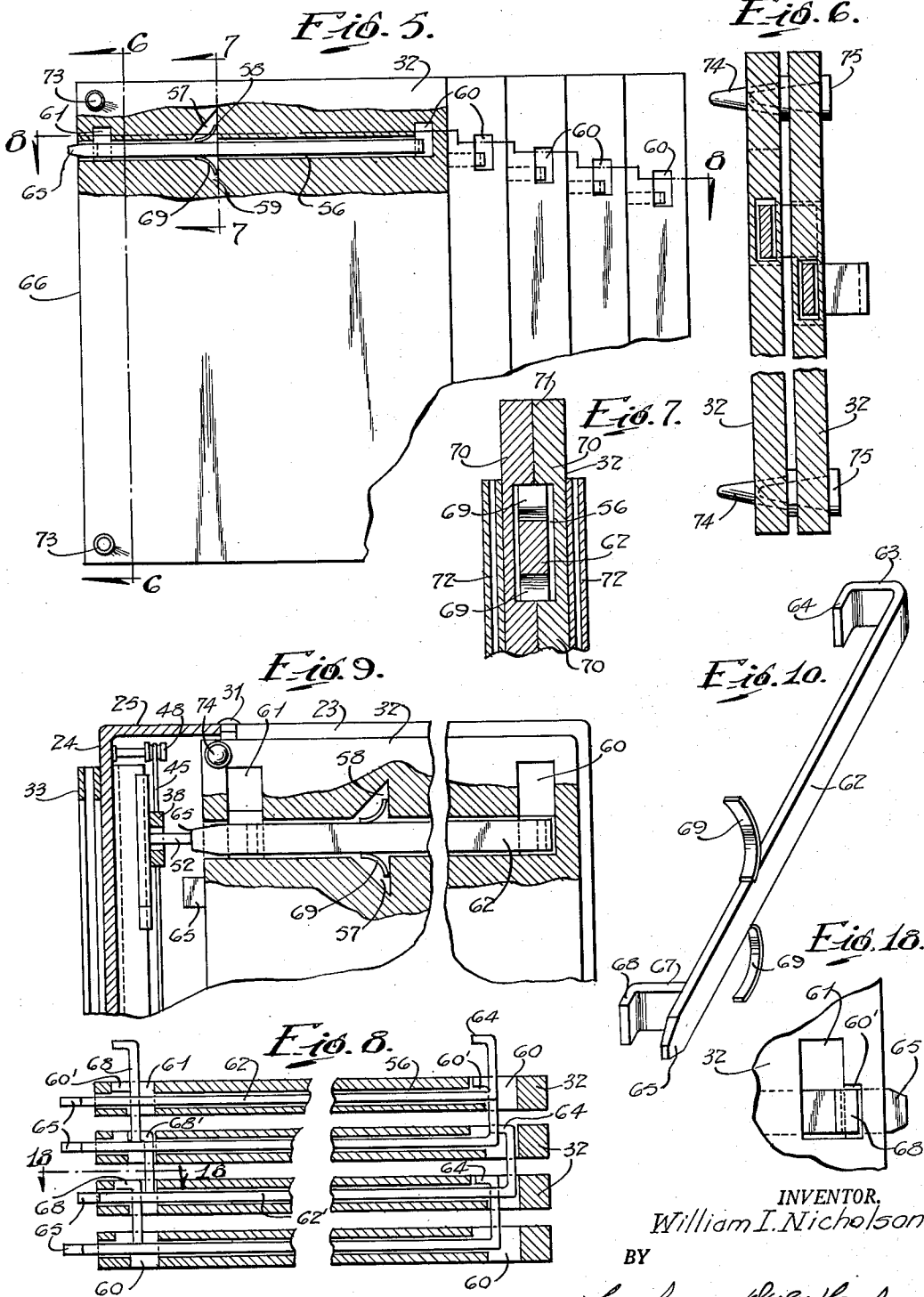
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2,670,553

BOOKRACK PAGE INDEX DEVICE

Filed Feb. 18, 1952

3 Sheets-Sheet 2



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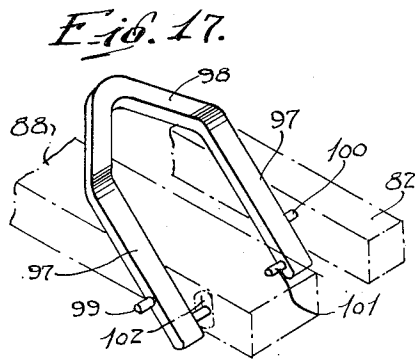
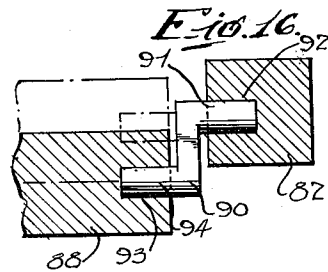
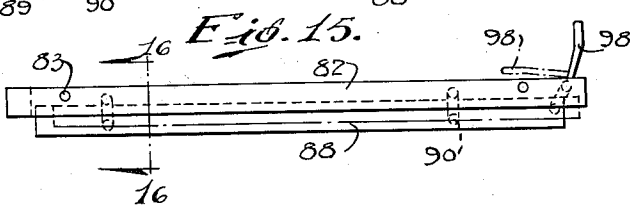
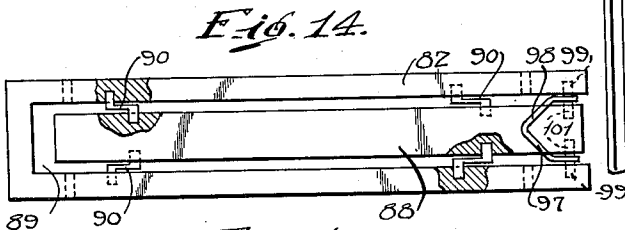
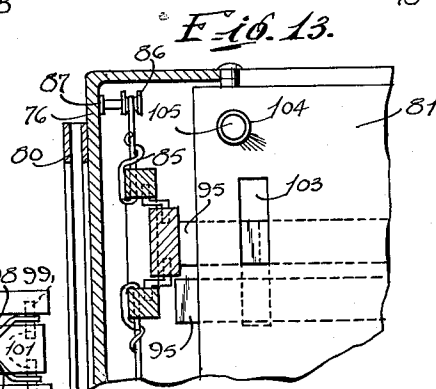
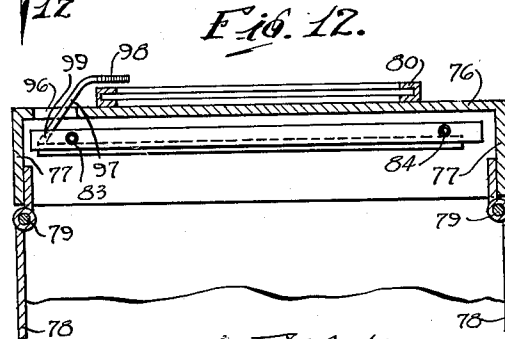
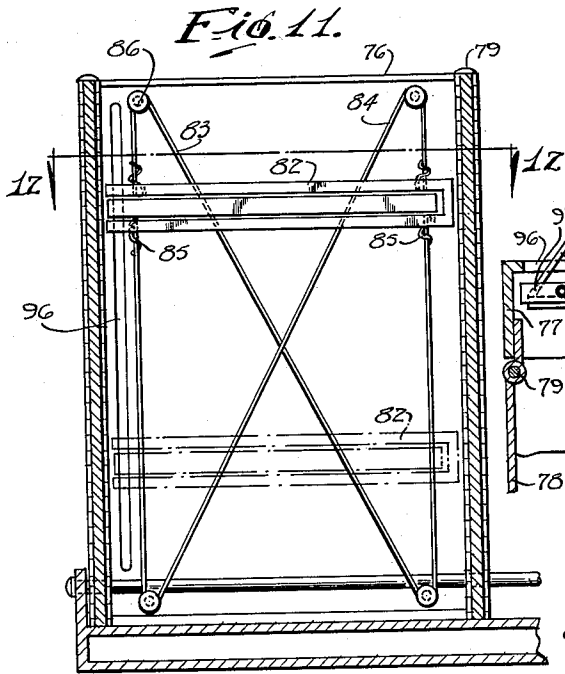
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2,670,553

BOOKRACK PAGE INDEX DEVICE

Filed Feb. 18, 1952

3 Sheets-Sheet 3



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2,670,553

BOOKRACK PAGE INDEX DEVICE

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Application February 18, 1952, Serial No. 272,071

8 Claims. (Cl. 40--104)

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The present invention relates to an improved index device arranged to be associated with indexed sheets of a book, catalog or the like.

An important object is to provide an index device carried by the back of a book and which includes simple, efficient, accurate and economical means for readily and automatically selecting any particular sheet, page, card, or section containing classifiable data or other matter, that will be presented to view when the book is swung open.

Other objects and advantages of the invention will become apparent from the following description when taken in conjunction with the accompanying claims and drawings.

Referring to the drawings;

Figure 1 is a perspective view of a book support showing each of the books or volumes constructed in accordance with the present invention;

Figure 2 is a sectional view taken substantially along the line 2--2 of Figure 1;

Figure 3 is a sectional view taken substantially along the line 3--3 of Figure 2;

Figure 4 is a detailed perspective view of the movable selector and its associated parts;

Figure 5 is a detailed view with parts in section showing the removable sheets or pages constructed in accordance with the invention;

Figure 6 is an enlarged sectional view taken substantially along the line 6--6 of Figure 5;

Figure 7 is an enlarged sectional view taken substantially along the line 7--7 of Figure 5;

Figure 8 is a sectional view taken substantially along the line 8--8 of Figure 5;

Figure 9 is a sectional view taken substantially along the line 9--9 of Figure 1;

Figure 10 is a detailed perspective view of each of the retaining straps shown in Figure 5;

Figure 11 is a view similar to Figure 2 of a modified form of the invention;

Figure 12 is a sectional view taken substantially along the lines 12--12 of Figure 11;

Figure 13 is a detailed sectional view of the book assembly shown in Figure 11;

Figure 14 is a detailed front view with parts in section of the selector frame and its associated parts shown in Figure 11;

Figure 15 is a plan view of Figure 14;

Figure 16 is an enlarged detailed sectional view taken substantially along the line 16--16 of Figure 15;

Figure 17 is a detailed perspective view of parts of the selector frame showing the pointer connected thereto; and

Figure 18 is a detail front view of a page showing an opening and recess for receiving the arm of a retaining strap.

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Referring to the drawings, 20 indicates a book rack having its opposite ends 21 provided with upwardly extending arms 22 between which may be positioned one or more volumes, books or folders 23. For the purpose of illustration, three such volumes have been shown. The back 24 of each volume is preferably in the form of a metal frame having spaced side flanges 25 (Fig. 3) which at their lower ends are provided with aligned openings 26 which register with complementary openings 27 in flanges 28 on the end members 21 (Fig. 1). A retaining rod 29 extends through the openings 26 and 27 so as to provide a pivotal support for each of the volumes 23 in order that it may be swung outwardly and downwardly to assume an open position as shown by the middle volume 23 in Fig. 1.

To the opposed flanges 25 of the back 24 are hinged the sides 30 of the volume, catalog, or book as at 31. Each volume 23 is arranged to receive any number of separate or detachable account sheets, pages, cards or sections 32 containing pertinent data such as classifiable matter and the like. In order that this data may be readily available or accessible at a minimum expenditure of time and effort, the front or exposed face of each back 24 may be provided with a rectangular frame 33 having grooves 33' in opposed sides so that a card 34 may be removably inserted therein. The card 34 has vertical rows of characters such as the numerals 35 which correspond in number to the number of account sheets 32 carried by each volume or book 23. It will be manifest that the number of sheets 32 may be varied so that the indicia on the cards 34 will be correspondingly varied in accordance therewith.

The inner face 36 (Fig. 2) of each back 24 has secured thereto a diagonal or inclined channel-shaped guide or rib member 37 with which is associated a vertically movable, light, selector 38 having an elongated transverse slot 39 (Fig. 4) and which is bent at one end outwardly as at 40 and then inwardly as at 41 to form the pointer or hooked end portion 42. One of the side flanges 25 has an elongated vertical opening 43 through which loosely extends the selector 38 so that the arm 41 and pointer 42 may be positioned in front of the card holder 33 (Fig. 3) and be moved to selectively register with any one of the transverse rows of characters 35. The selector 38 in each of the back frames 24 is provided with the spaced openings 44 to which are connected the ends of the flexible cables 45 and 46 as at 47. Pulleys 48 are rotatably mounted within the back frame 24 adjacent the upper and lower ends thereof so

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as to be frictionally engaged by the cables or flexible members 45 and 46 and which provide means for releasably maintaining the selector 38 in any desired adjusted vertical position. A pair of movable guide arms or members 49 and 50 (Fig. 4) are positioned on opposite sides of the inclined channel member 37. The arms 49 and 50 are connected together by a transverse web or lug 51 that constitutes a projection that extends outwardly as at 52 from one side of the selector 38 for a purpose subsequently to be described. It will be seen that upon vertical movement of the selector 38 relative to the back frame 24, that the guide members 49 and 50 will also be moved laterally or transversely in the slot 39 due to their guiding engagement with the inclined channel member 37. The guide members 49 and 50 may be provided with tapered portions 53 that extend in opposite directions and terminate in rectangular end portions 54 (Fig. 4). Rollers 55 are rotatably mounted on the guide members 49 and 50 so as to reduce their frictional engagement with the sides of the selector 38.

Each of the account sheets, catalogs, cards, leaves, or pages 32 may be made of any suitable durable, rigid material such as cardboard, plastic or the like, and is of such a thickness as to be provided with a transverse recess or opening 56 which extends inwardly and centrally from the inner side of the sheet to a point short of the outer or opposite side thereof (Fig. 5). The recess 56 intermediate its ends communicates with an enlarged chamber or cavity 57 that forms shoulder portions 58 and 59 in the sheet and on opposite sides of the recess 56. Each sheet is also provided with spaced elongated openings 60 and 61 adjacent the opposite end thereof and which communicates with the recess 56. The recess 56 and openings 60 and 61 in each of the sheets 32 is vertically offset or stepped relative to its preceding and succeeding sheet (Fig. 5). Arranged to be axially slidable in each of the transverse recesses 56 is a strap or member 62 which is preferably formed at one end with a hook portion having a laterally and outwardly extending arm 63 (Fig. 10) that terminates in an inwardly extending retaining arm 64. The opposite end 65 is tapered or curved and arranged normally to project beyond the adjacent vertical edge 66 of the sheet 32 (Fig. 5) so as to be positioned in the path of vertical movement of the projection or lug 52 (Fig. 9) on the guide members 49 and 50 so that the latter may be moved vertically past the lug 52 or engage the same. The arm 64 is of slightly narrower width than the opening 60 and extends therethrough so that when the strap 62 is moved axially to the left as shown in Fig. 5, it will overlap and engage the adjacent or preceding sheet to prevent separation of the sheets. Conversely, when the strap 62 is moved so that the arms 64 again align with the opening 60, it will permit the independent movement of the preceding sheet or section. The strap 62 is also provided with an outwardly extending lug 67 parallel to the arm 63, and which terminates in a flange or arm 68 that extends toward the tapered end 65. The arm 68 is of sufficient width as to permit the lug 67 to extend through the openings 61 so that when the selector 62 is moved to the left as shown in Fig. 5, the arm 68 will overlap the preceding page in substantially the same manner as the arm 64 previously described.

The strap 62 has extending from opposite sides thereof the curved spring members 69 which are arranged to extend into the cavity 57 so as to

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yieldably engage the shoulders 58 and 59 (Fig. 9). Normally the tension of the springs 69 against the shoulders 58 and 59 will force the strap 62 axially to the left as shown in Fig. 5 so as to cause the arms 64 and 68 to overlap and retain each preceding page in contact with its succeeding page. Each sheet, page or catalog 32 may be made of any suitable solid material having the transverse recess 56 and cavity 57 centrally formed therein or may be formed as shown in Fig. 7 of separate layers 70 provided with opposed recesses which when the layers 70 are secured together along the median line 71 will form the recess 56 and the cavity or chamber 57. The outer exposed sides of the sheet may be provided with transparent pockets 72 leaving open the top ends for inserting typed or printed cards therein. Each sheet 32 adjacent the back frame 24 is provided with openings 73 adjacent the upper and lower ends thereof through which extend the cone-shaped hollow pins 74 having the enlarged heads 75. The pins 74 are arranged to be moved into interfitting engagement and serve to maintain the sheets firmly in position and permit their convenient separation when it is desired to open the book in order to obtain quickly any classified data shown or carried by a particular sheet.

In operation, assuming that the three books as shown in Fig. 1 are arranged to contain selected or classified data of importance to an executive in his particular position, and which must be readily available, such as for conference or consultation at short notice, if each book contains twenty sheets, each provided with separate pertinent data, the card 34 will be correspondingly provided with twenty rows corresponding to the number of sheets. Normally the springs 69 of each strap 62 urges the same to the left (Fig. 5) so that the arms 64 and 68 overlap and retain adjacent sheets in contact with each other. If the closed middle book is the one in which the information is contained that the executive desires, he first moves the pointer 42 vertically so that it registers with the row on the card 34 that contains the data or information needed. This movement of the pointer 42 also moves the selector 38 when the book is still in its closed position, in engagement with the end 65 of the strap 62 carried by the particular sheet containing the data indicated by the row where the pointer 42 is stopped. The engagement of the lug 52 of the selector 38 with the tapered end 65 forces the strap 62 to the right (Fig. 5) against the tension of the spring 69 so as to cause this particular strap to move its associated arms 64 and 68 in registration with complementary openings 60 and 61 in order that the preceding sheet which previously has been maintained in contact with it, may be released so that the book may be swung open at the desired sheet as indicated in Figure 1. The connection of the cone-shaped members 74 with each sheet maintains the sheets in proper alignment when they are fastened together by the arms 64 and 68 and allow their independent movement or removal when they are released from engagement by the strap 62. Upon the selector 38 being moved away from end 65 of a strap 62, the springs 69 will again return the arms 64 and 68 so as to overlap the adjacent preceding sheet. In Fig. 8, four separate sheets 32 are shown with three of the straps 62 moved to the left so as to retain each sheet to the preceding and succeeding sheets. The openings 60 and 61 each has the wall thereof provided with an enlarged recess 60' for receiving the arms 64

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and 66, so that these arms will not project outwardly from the face of the pages and in order that adjacent pages will lie flat against each other when the book is closed. One of the straps such as 62' is also shown moved so that the arms 64' and 68' thereof register with the adjacent openings 60' and 61' respectively, in order that the preceding sheet may be moved away from its succeeding sheet so as to automatically open the book at this particular point.

In the modified form of the invention shown in Figures 11-17, inclusive, the back 76 of the book is preferably in the form of a channeled metal frame structure similar to the back 24 previously described, and has the opposed parallel flanges 77 to which the sides 78 of the book are hinged as at 79 (Fig. 12). The outer face of the back 76 may be provided with a card receiving pocket 80 having a number of transverse rows containing characters or the like and corresponding with the number of account sheets or pages 81 which are similar in construction to the sheets 32' previously described. Associated with the back 76 so as to be vertically movable relative thereto, is an elongated rectangular frame 82 to which the cables 83 and 84 are connected as at 85. The cables 83 and 84 pass over pulleys 86 connected as at 87 (Fig. 13) to the inner face of the frame back 76 so as to be moved vertically and be maintained in any desired position. A reciprocating selector 88 is positioned within the slot or opening 89 of the selector frame 82 and is movably connected thereto by the substantially Z-shaped pins or lugs 90 (Fig. 16), which have horizontal arms 91 that fit in sockets 92 on the inner opposed sides of the selector frame 82. The reciprocating strap 93 is also provided with sockets or openings 93 into which the horizontal arms 94 of the pins 90 are rotatably mounted. It will be seen that the adjacent pair of sockets 92 and 93 are laterally offset from each other so that upon axial movement of the strap 88 relative to the selector frame 82, the selector 88 will, when moved in one direction, be moved or rocked inwardly relative to the reciprocating strap 95 carried by each of the sheets 81, and when actuated in an opposite direction, will be swung away from the adjacent ends of the straps 95, due to the rocking or arcuate movement caused by the offset connection of the pins 90 with the selector frame 82 and the selector 88. The back 76 adjacent one side thereof is provided with a vertical opening 95 (Fig. 12) through which extends the spaced arms 97 of the pointer 98 which is preferably shaped as shown in Fig. 17. The pointer 98 has extending outwardly from the arms 97, the pins 99 which fit in aligned openings or recesses 100 in the adjacent inner wall of the frame 82. The arms 97 are also provided with the pins 101 which are offset relative to the pins 100, and are arranged to be slidably mounted in grooves or recesses 102 formed in the adjacent sides of the strap 88. Each of the separate or removable sheets 81 is similar in construction and operation to the sheets 32 previously described and are provided with the elongated openings 103 and openings 104 for receiving the retaining pins 105 which, while shown of cone-shape, may be of any other suitable configuration (Fig. 13).

Normally when the parts are in inoperative position the pointer is moved so as to overlap the front of the card holder 80 as shown in Fig. 12 and the selector 88 is swung away from the ends of the straps 95. When it is desired to select any

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one of the sheets in the book in order to examine the same for pertinent data, the indicator frame 82 and its associated parts are moved vertically so that the pointer 98 registers with the proper column on the back of the book in substantially the same manner as the pointer 42 previously described. The pointer 98, which now is in the position as shown in dotted lines in Fig. 15, is swung upwardly to the right as shown in full lines in this figure, which causes the selector 88 to be swung outwardly away from the frame 82 and into engagement with the now aligned end of one of the straps 95 (Fig. 13). This engagement of the selector 88 with the end of the strap moves the latter axially to the right so as to move the retaining lugs thereon into registration with the complementary openings in order that upon swinging the book to its open position will open the same to the desired page as indicated by the row on the back of the book with which the pointer 98 now registers. Conversely, when the pointer 98 is swung to the dotted line position as shown in Fig. 15, the selector 88 will be moved away from and out of the path of the ends of the straps 95.

Thus, it will be seen that in all forms of the invention, upon vertically aligning the index pointer with a desired column on the back of the book, means are automatically operable for selecting the particular sheet containing data corresponding to that indicated by the particular row on the back of the book, so that necessary data is readily accessible at the proper page when the book is swung open. The index device may be used for various purposes so as to provide simple and efficient means for readily obtaining important information at a minimum expenditure of time and effort.

It will be manifest that the several forms of the invention shown are merely illustrative of preferred embodiments and that such changes may be made as come within the scope of the following claims:

I claim:

1. In combination with the back and sides of a book, sheets arranged to be confined between the sides when the book is closed, said back having on its outer surface longitudinally spaced rows of index characters corresponding in number to the number of said sheets, a longitudinally movable selector extending transversely of the book and having a pointer extending outwardly to selectively align with one of the longitudinal rows of characters, each sheet having a transversely disposed axially slidable member connected thereto, said slidable member being provided with retaining means arranged to engage the preceding sheet when said member is moved axially in one direction and to be freed therefrom when moved in an opposite direction, said slidable member having one end projecting into the path of movement of said selector so as to be axially displaceable thereby, means for normally maintaining the retaining means in engagement with a preceding sheet, and means for releasing engagement of said retaining means with said preceding sheet so that when the book is opened it will automatically open at the released sheet.

2. In combination with the back and sides of a book, separate, removable sheets arranged to be confined between the sides when the book is closed, means for releasably maintaining the sheets in alignment, said back having on its outer surface vertically spaced rows of index characters corresponding in number to the number of

said sheets, a vertically movable selector extending transversely of the book and having a pointer extending outwardly to selectively align with one of the vertical rows of characters each sheet having a transversely disposed axially slidable member connected thereto, said slidable member being provided with retaining means arranged to engage the preceding sheet when said member is moved axially in one direction and to be freed therefrom when moved in an opposite direction, said slidable member having one end projecting into the path of movement of said selector so as to be axially displaceable thereby, means for normally maintaining the retaining means in engagement with a preceding sheet, and means for releasing engagement of said retaining means with said preceding sheet so that when the hook is opened it will automatically open at the released sheet.

3. In combination with the back and sides of a book, separate, removable sheets arranged to be confined between the sides when the book is closed, means for maintaining the sheets in alignment, said back having on its outer surface vertically spaced rows of index characters corresponding in number to the number of sheets, a vertically movable selector extending transversely of the book in front of the back and having a pointer extending outwardly so as to selectively align with one of the vertical rows of characters, each sheet having a transverse recess extending inwardly and medially from one side thereof, each sheet being provided with a shoulder adjacent said recess, each sheet having a pair of spaced horizontal openings communicating with said recess, a strap axially slidable in said recess and having a hooked end portion extending through one of said openings and arranged to overlap the preceding sheet, said strap having a lug extending outwardly therefrom and shaped to project through the other of said openings and overlap a preceding sheet, said strap having its opposite end projecting outwardly from the sheet so as to be positioned in the path of vertical movement of said selector, spring means on said strap engaging said shoulder for normally urging the strap towards said back, said selector having guide means movable therewith and transversely slidable thereon, said back having an inclined guide rib engaged by said guide means, said guide means having a projection arranged to engage one end of the strap, and means upon vertical movement of the selector to move the pointer in alignment with a predetermined vertical row on the back of the cover and simultaneously to move said projection in engagement with the strap so as to force the latter outwardly in order to move the hooked end and the lug in alignment with their adjacent openings so that upon opening the book, the sheets are automatically separated at the point corresponding to the row with which the pointer is now in alignment.

4. In combination with a book and index device as called for in claim 3, in which the straps and the pair of openings associated with each sheet are vertically offset relative to the straps and openings in the adjacent sheets.

5. In combination with the back and sides of a book, separate, removable sheets arranged to be confined between the sides when the book

is closed, means for maintaining the sheets in alignment, said back having on its outer surface vertically spaced rows of index characters corresponding in number to the number of sheets, a vertically movable selector extending transversely of the book in front of the back and having a pointer extending outwardly so as to selectively align with one of the vertical rows of characters, each sheet having a transverse recess extending inwardly and medially from one side thereof, each sheet being provided with a shoulder adjacent said recess, each sheet having a pair of spaced horizontal openings communicating with said recess, a strap axially slidable in said recess and having one end provided with a hooked portion extending through one of said openings and arranged to overlap the preceding sheet, said strap having a lug extending outwardly therefrom and shaped to project through the other of said openings and overlap a preceding sheet, said strap having its opposite end projecting outwardly so as to be engaged by said selector, yieldable means connected to said strap and engaging said shoulder for normally urging the strap towards said back, said selector including spaced horizontal arms, a reciprocating plate between said arms, and means movably connecting the plate to said arms so that the plate is moved transversely with a rocking motion to engage and be moved out of engagement with the end of the reciprocating strap when the selector is aligned therewith.

6. In combination with a book and an index device as called for in claim 5 in which means are provided for pivotally connecting the pointer to said selector and to said plate so as to cause the plate to be rocked towards and away from the adjacent end of the strap.

7. A device of the class described having a frame provided with a vertical slot, a vertically movable selector mounted in the frame and having an indicator arm extending outwardly through said slot, said frame having an inclined guide rib therein, spaced guide means movable with the selector and transversely slidable relative thereto, said guide means engaging said inclined rib so as also to be moved laterally when the selector is moved vertically, and a displaceable operating member in the path of movement of said selector and arranged to be actuated thereby.

8. A device of the class described including a frame having a vertical slot in one side thereof, a selector vertically movable within the frame and having spaced horizontal arms, a reciprocating plate between said arms, means movably connecting the plate to said arms so that the plate is moved with a rocking motion relative to the arms, an axially movable operating member arranged to align with said strap, and means for moving the strap in engagement with one end of said operating member to axially displace the same.

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