Feb. 28, 1933. C. B. ULRICH 1,899,837

FILING STRUCTURE

Filed Jan. 21, 1930 5 Sheets-Sheet 1

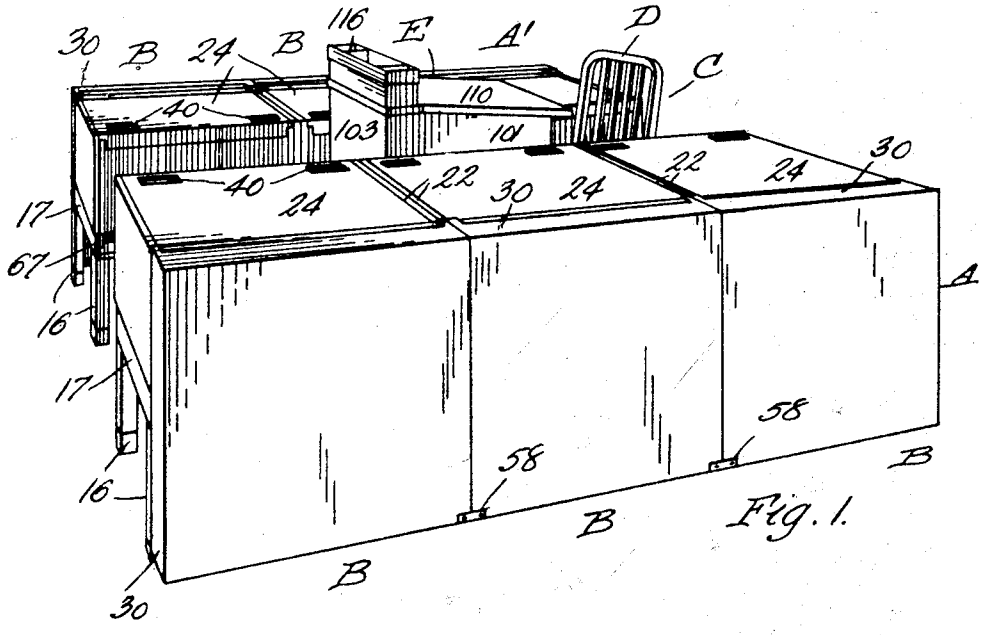


Fig. 1.

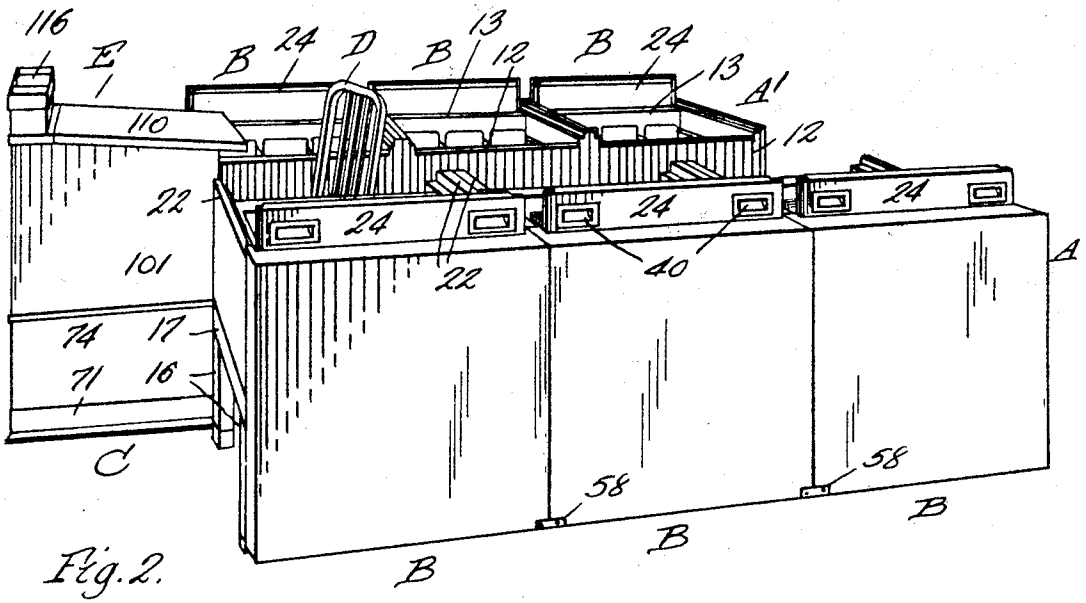


Fig. 2.

INVENTOR.
Charles B. Ulrich
by Parker & Rochmore
ATTORNEYS.

Feb. 28, 1933. C. B. ULRICH 1,899,837

FILING STRUCTURE

Filed Jan. 21, 1930 5 Sheets-Sheet 2

Fig. 3.

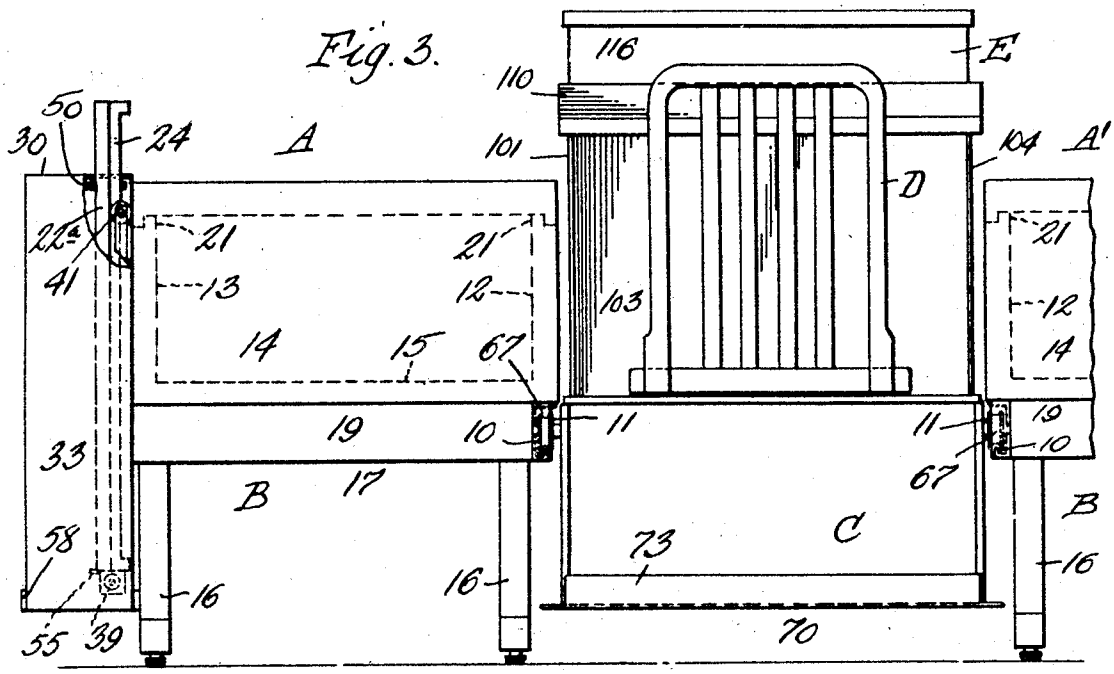
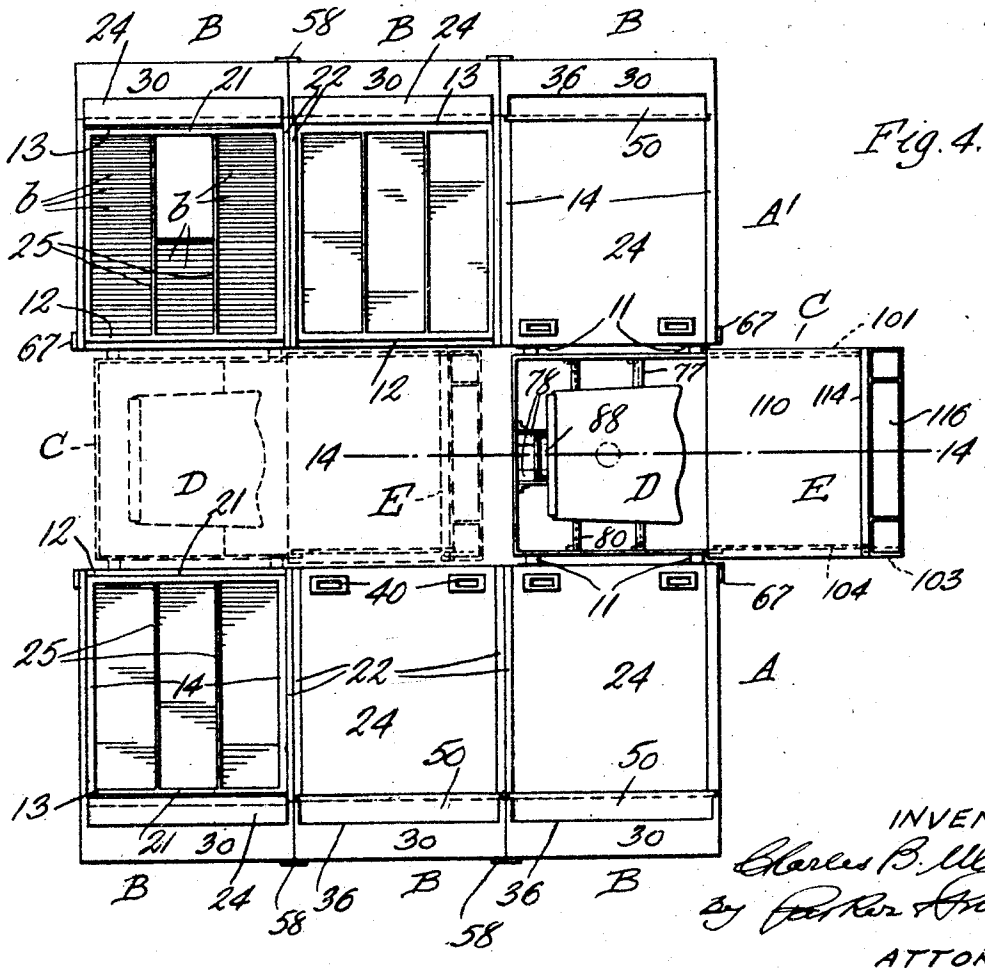


Fig. 4.



INVENTOR.
Charles B. Ulrich.
By Parker & Prochnow.
ATTORNEYS.

Feb. 28, 1933. C. B. ULRICH 1,899,837

FILING STRUCTURE

Filed Jan. 21, 1930 5 Sheets-Sheet 3

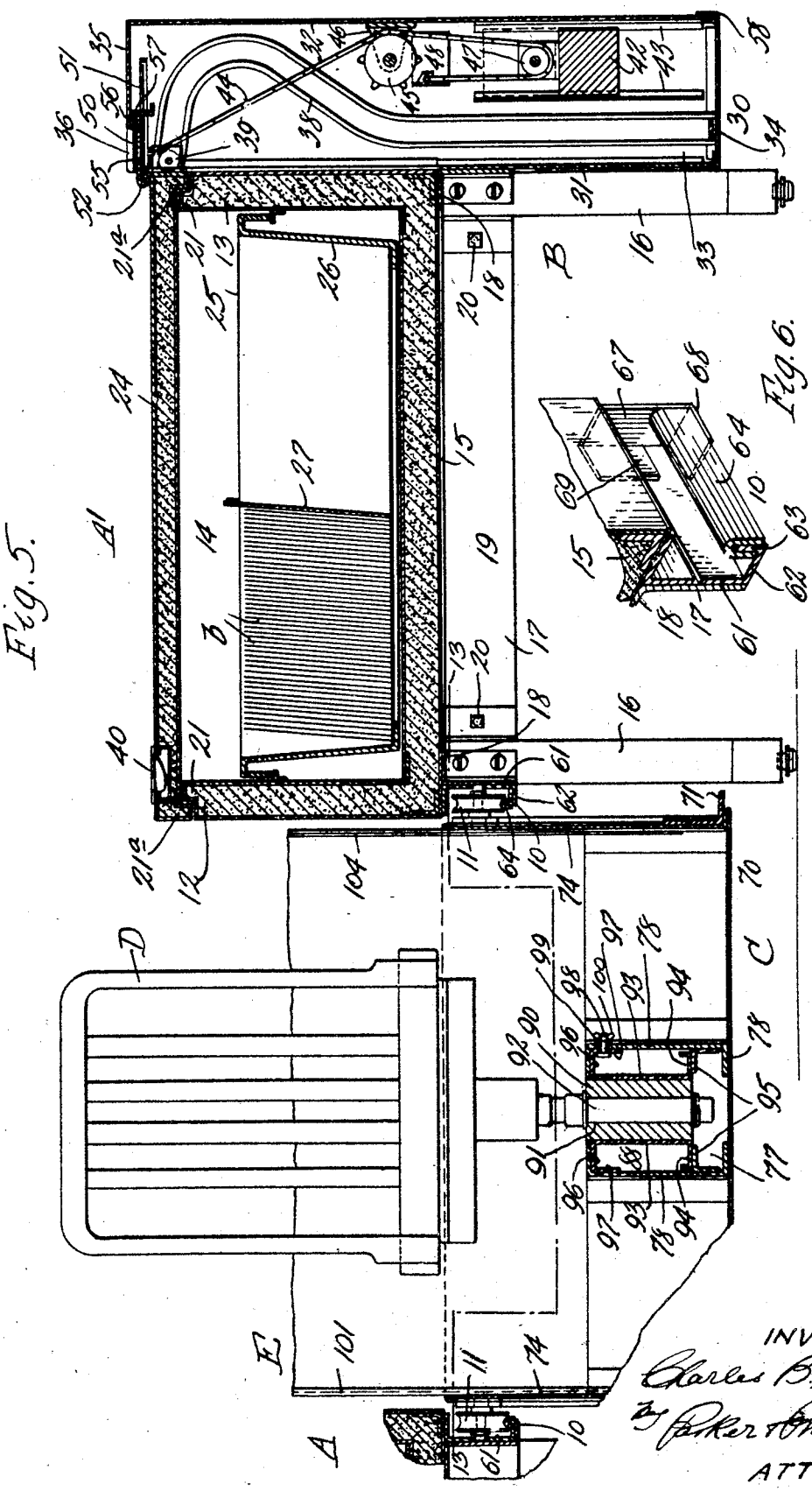


Fig. 5.

Fig. 6.

INVENTOR.
Charles B. Ulrich
by Parker & Prickett.
ATTORNEYS.

Feb. 28, 1933. C. B. ULRICH 1,899,837

FILING STRUCTURE

Filed Jan. 21, 1930 5 Sheets-Sheet 4

Fig. 7.

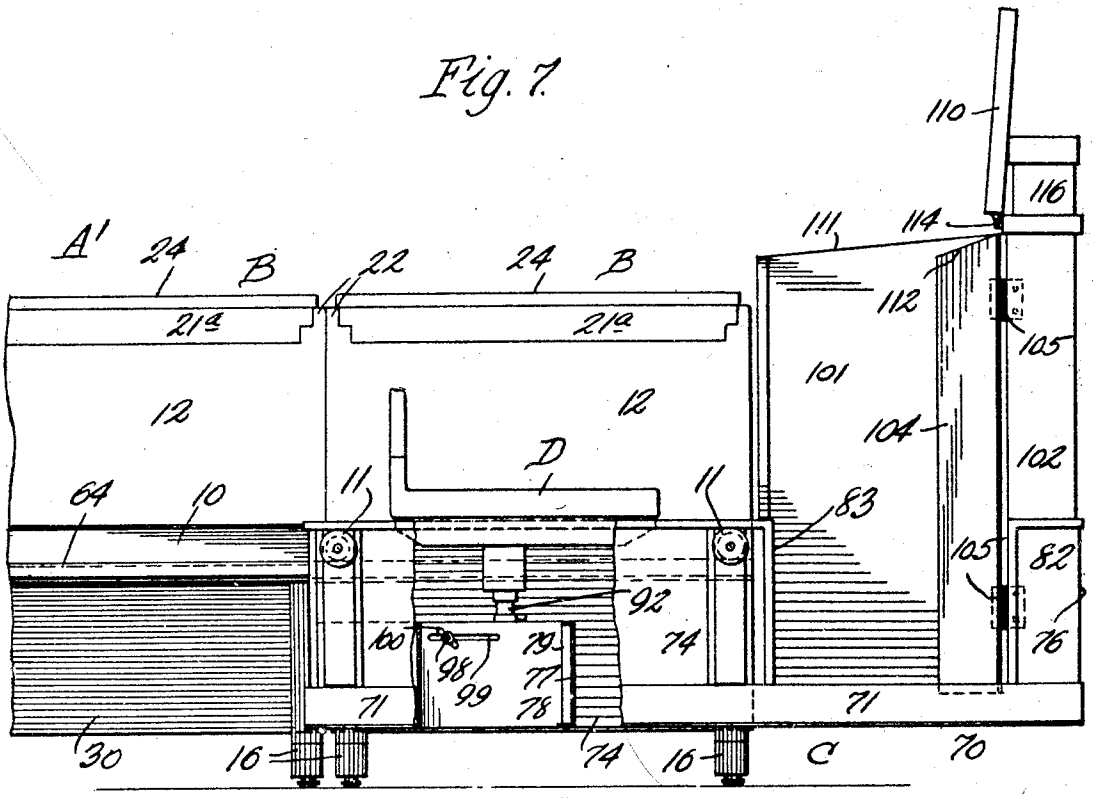


Fig. 8.

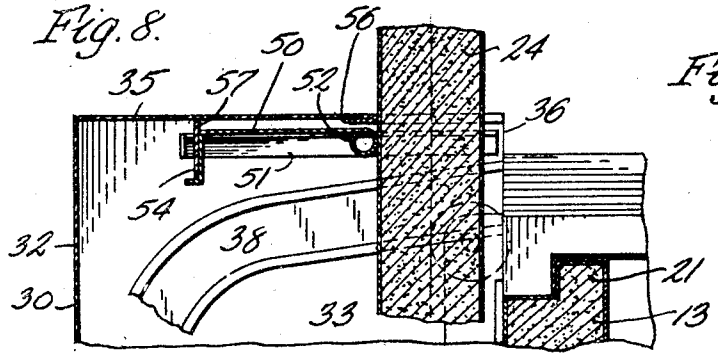


Fig. 9.

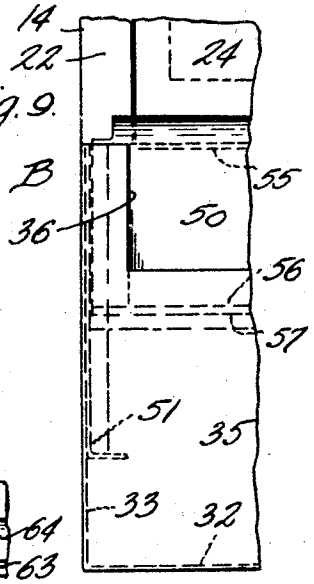
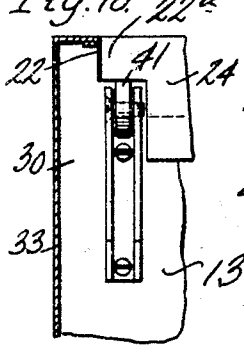


Fig. 10.



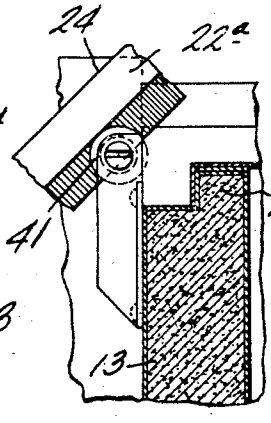
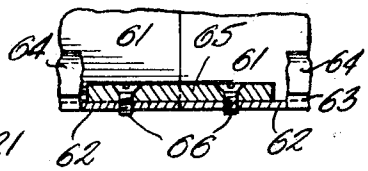


Fig. 11.

Fig. 12.



INVENTOR
Charles B. Ulrich
By Parker & Prickman.
ATTORNEYS.

Feb. 28, 1933. C. B. ULRICH 1,899,837

FILING STRUCTURE

Filed Jan. 21, 1930 5 Sheets-Sheet 5

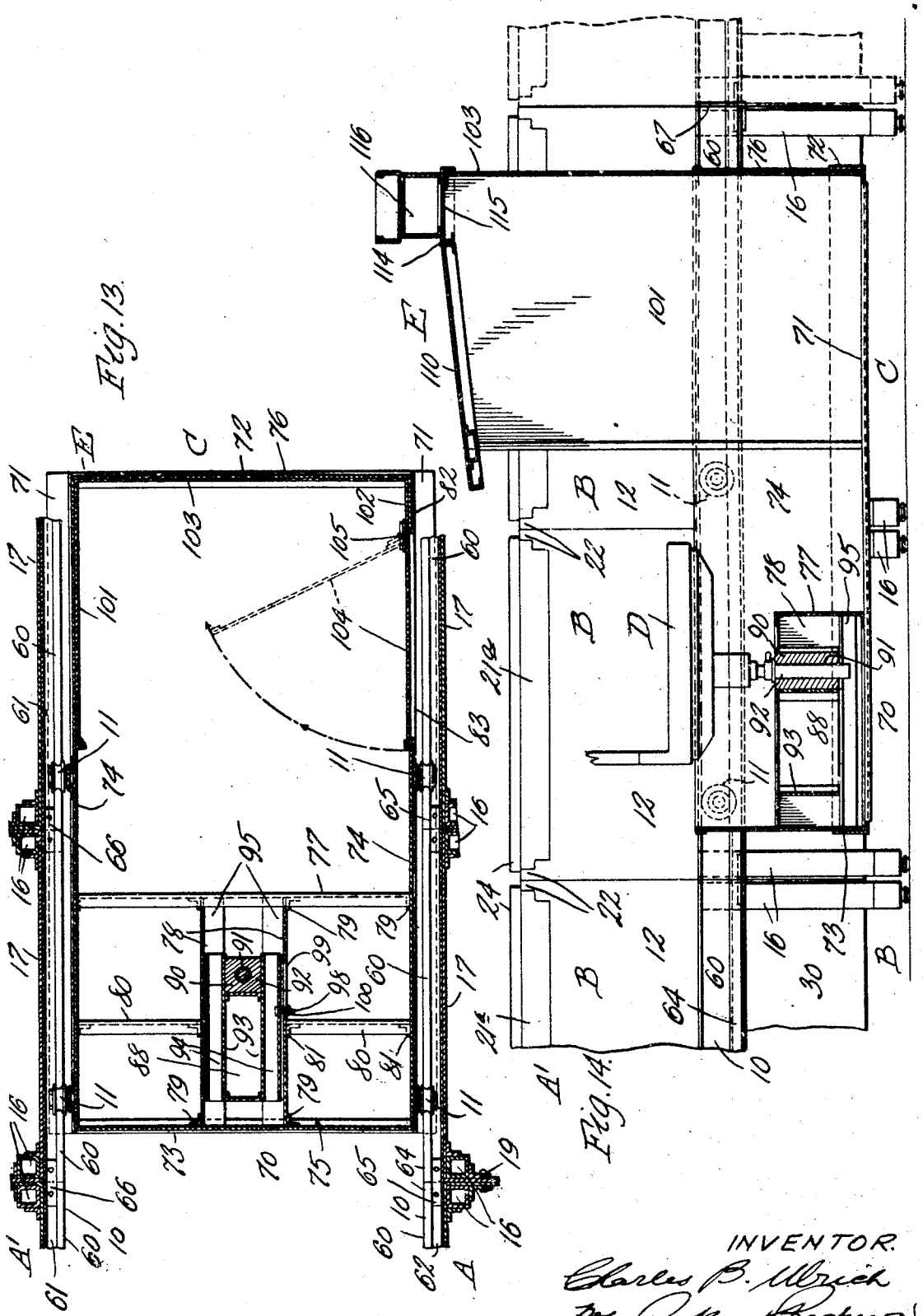


Fig. 13.

Fig. 14.

INVENTOR.
Charles B. Ulrich
By Parker & Prochnow.
ATTORNEYS.

Patented Feb. 28, 1933 1,899,837

UNITED STATES PATENT OFFICE

CHARLES B. ULRICH, OF JAMESTOWN, NEW YORK, ASSIGNOR TO ART METAL CONSTRUCTION COMPANY, OF JAMESTOWN, NEW YORK

FILING STRUCTURE

Application filed January 21, 1930. Serial No. 422,436.

This invention relates to filing structures and particularly to improvements in structures of this kind in which cards, sheets, or other records are filed on edge in face to face arrangement enabling ready access to the records for removal and insertion thereof.

In cabinet structures heretofore provided for records of this sort, the construction has been such that the cabinets could be arranged side by side, access being had to the records from the front or rear of the cabinet. In such structures only a limited number of the records are available at one time, since the records are usually supported in the cabinets in superimposed drawers, trays, shelves, or the like.

Various cabinet structures heretofore provided for housing records of the sort described have been made of fire-proof construction, but so far as I am aware these structures have been in the nature of safes and were provided with doors at the front of the cabinets for completing the enclosure and protection of the contents.

Some objects of the present invention are to provide a filing structure having fire-proof filing units which may be arranged side by side, and in which record cards or the like may be arranged on edge in a manner to permit the entire contents of the unit to be exposed and accessible from the top of the unit, and in which each of said units is provided with a fire-proof closure member extending across the top thereof to protect the contents, and which is movable to a position to expose the records for use; also to construct a filing structure of this sort having units in which said top closure member can be moved to an open position out of the way so as not to interfere with the records when the latter are to be handled or worked upon; also to construct a unit of this sort having a separate enclosure for the reception of the top closure member, when in open position, and means of novel construction for closing the opening into said enclosure, when the closure member is in closed position.

Other objects of the invention are to provide a filing structure having filing units arranged in parallel, spaced rows or banks, and to provide a carriage or support disposed between said banks of units, and which may be occupied by a filing clerk, and with which the clerk can move to a position opposite any unit and reach the records therein; also to provide a structure of this sort having a carriage and a seat thereon, both of which are movable with the carriage lengthwise of and between said banks of units to permit an occupant of the seat to move opposite and have access to records in any unit at either side of the carriage, without leaving the seat; also to provide a structure of this sort having a carriage arranged as described and upon which a desk, shelf or other support is arranged in front of the seat in a position to enable records taken from the units to be worked upon; also to provide a structure of this sort having guide means for guiding said carriage lengthwise of and between said rows and preferably out of contact with the floor or supporting surface upon which the structure rests; also to provide a structure of this sort having a carriage provided with a seat, and guide means for said platform which permits the latter to be moved lengthwise of said rows of units so that said seat can be moved from a position opposite of and between the units at one end of the series to a position opposite of and between the units at the other end of the series so that the occupant of the seat can reach any record in the entire structure, without leaving the seat.

Other objects are to provide a structure of this sort having a carriage provided with a seat and having a shelf, desk, or the like support mounted on said carriage in front of said seat, and which is of cantilever construction, whereby, when the carriage is moved in a forward direction, it can project outwardly beyond the groups of units at one end thereof, so as to permit an occupant of the seat to have access to the records in the units at said end of the structure, without leaving the seat; also to construct the carriage so that, when the latter is moved to the position just described, the occupant of the carriage can leave the structure by way of the projecting end of the carriage; and also to provide a structure of this sort so con-

structed that, while the carriage projects in the manner stated, the guide means therefor does not project beyond the ends of the groups of units.

Further objects of the invention are to improve filing structures of the character described in the other respects hereinafter set forth and claimed.

In the drawings:

Fig. 1 is a perspective view illustrating an embodiment of my improved filing structure, showing the movable carriage arranged at one end thereof, and showing the covers or closure members of the filing units in closed position;

Fig. 2 is a similar view, showing the movable carriage at the other end of the structure, the covers or closure members being in open position to afford access to the records;

Fig. 3 is a fragmentary end view of the structure with a part of one of the filing units broken away to show its closure member in open position;

Fig. 4 is a plan view of the filing structure, showing the movable carriage in full lines in its extreme forward position, and in dotted lines in its rearmost position;

Fig. 5 is a fragmentary, transverse vertical section, on an enlarged scale, showing the movable carriage and one of the record units at one side thereof, and a portion of the record unit at the opposite side thereof;

Fig. 6 is a fragmentary perspective view of one of the guides for the carriage, and the stop means at one end thereof for preventing the disengagement of the carriage therefrom;

Fig. 7 is a side elevation of the carriage in its extreme advanced position, and in operative relation to one bank or row of filing units, the opposite bank or row of units being omitted;

Fig. 8 is a fragmentary, transverse vertical section, on an enlarged scale, of a part of one of the closure members of a record unit in its open position;

Fig. 9 is a fragmentary plan view of the rear end of a filing unit, showing the means for closing the opening through which the closure member thereof extends when in open position;

Figs. 10 and 11 are side and rear elevations respectively of one of the roller supports for a unit closure member;

Fig. 12 is a fragmentary horizontal section, showing the means for connecting the adjacent ends of two sections of one of the platform guides or tracks;

Fig. 13 is a fragmentary horizontal section of the carriage and the carriage guides or tracks, taken approximately on the line 13—13, Fig. 5, on a slightly reduced scale; and

Fig. 14 is a longitudinal vertical section thereof, on line 14—14, Fig. 4.

In the illustrated embodiment of the invention, my improved filing structure comprises two spaced rows or banks A and A′ of filing units B which are open at the top, and in each of which a plurality of index cards, sheets or other records *b* can be arranged on edge. The banks A and A′ are disposed in parallel arrangement, with the units B of each group disposed side by side, preferably in contact and connected together with the fronts of the units of one group facing inwardly towards the fronts of the units of the other group.

In the space between the banks or groups A, A′, and preferably supported thereon, is a pair of horizontal guides or tracks 10, and a carriage C is arranged between said banks and is provided with oppositely disposed pairs of rollers or other traveling supporting members 11 which operatively engage with said guides or tracks 10 to enable the carriage C to travel lengthwise of said banks of units.

The carriage is provided with a seat D adjacent one end thereof, and also preferably with a desk, shelf or other support E disposed at the other end of said carriage in front of and facing said seat.

Since the carriage is movable lengthwise along or between the banks of units B, an occupant of the seat D can, by moving or propelling the carriage so as to position the seat opposite one or the other of the units B, gain access to or remove from said units any of the records contained therein, without leaving the seat, and the records can be placed upon the desk, shelf or support E, to permit entries or other work to be done.

In the arrangement shown in the drawings, three units B are shown as comprising each of the banks A, A′, but obviously less than three or a greater number than three of these units may be arranged and connected side by side to form groups or banks A, A′ of any desired length, in accordance with the number of records to be stored and handled.

All of the units B are of like construction, each including a record supporting and containing compartment of box-like form, open at the top and having front and rear parallel upright walls 12 and 13, opposite parallel upright side walls 14, and a horizontal bottom wall 15. This record enclosure or compartment is supported at its four corners upon legs 16 connected at their upper ends to the compartment by a hollow rectangular member or frame 17, preferably formed of inverted angle members, the horizontal flanges 18 of which are secured to the bottom wall 15 of the compartment. The transversely extending vertical side flanges 19 of the frames 17 of adjacent units B abut one against the other, and are provided with registering holes for the reception of fastening devices or bolts 20 for securing the units together side by side and in alinement.

The top edges of the front and rear walls 12 and 13 of the compartment of each unit B are rabbeted to form upstanding inner shoulders 21, while the opposite side walls 14 are formed with upstanding outer shoulders 22. A cover or closure member 24 is provided for each compartment, the front and rear edges and opposite side edges of each cover 24 being respectively formed with downwardly extending outer shoulders 21*a* and opposite laterally extending shoulders 22*a*, which interfit with said shoulders 21 and 22, when said cover 24 is in closed position, extending horizontally across the top of the unit, as shown in Fig. 5.

Preferably, the several walls and the cover 24 of a unit are made of fire-proof construction of any suitable sort, as by forming each wall of spaced sheet metal plates, the space between which is filled with suitable insulating or fire-resisting material. Thus, when the cover 24 is in closed position, interfitting with the walls of the compartment, as just described, the contents of the unit are fully protected.

The records *b* can be supported in the units B in any suitable way, preferably so that they can be arranged on edge and disposed in series, extending from front to rear. For this purpose, in the construction shown, each unit is divided into a number of separate spaces by rearwardly extending upright partitions 25, and a removable basket or carrier 26 is suspended in each compartment, and each of which has a bottom wall upon which the records *b* are supported on edge and are held in face to face relation by a removable follower 27. The records, however, may be arranged in the units and supported on edge in any suitable way.

In order to quickly and easily open or close the covers 24 of the units B and to permit them to be out of the way while in open position, each unit B is provided at the rear thereof with an upright narrow enclosure 30, the lower end of which extends some distance below the bottom wall 15 of the record compartment. The enclosure 30 is preferably formed of sheet metal, having front and rear parallel upright walls 31 and 32, opposite parallel side or end walls 33, a bottom wall 34, and a top wall 35.

The front wall 31 of the enclosure 30 has the upper portion thereof secured to the rear face of the back wall 32 of said unit, while the front edge of the top wall 35 of the said enclosure 30 terminates a short distance rearwardly of and somewhat above the upper edge of the front wall 31, thus forming a narrow longitudinal horizontally extending slot or opening 36 between said edge and the top edge of the front wall 31 through which the adjacent cover or closure member 24 of the unit B can pass into and out of the compartment 30.

Secured to each of the opposite upright side or end walls 33 of each enclosure 30 is a channel guide or track 38, having its upper end arranged adjacent the slot or opening 36, the guide 38 extending thence rearwardly and curving downwardly and forwardly and terminating in a vertical portion which extends downwardly to the bottom wall 34. Operatively engaging in each of the guides 38 is a roller or the like 39 secured to the adjacent rear corner of the cover 24, and which, when said cover is raised by lifting upwardly on the front portion thereof as by means of recessed handles or gripping members 40, will move downwardly in said tracks 38 and guide the cover 24 to its open position, as shown in Figs. 3 and 8, in which it stands substantially vertically in its enclosure 30. In order to relieve or prevent wear between said cover and the rear portion of the record compartment in the movement of the cover 24 into and out of the enclosure 30, a pair of rollers 41, journalled on the rear walls 13 at the top edge thereof are provided, and over which the opposite side flanges or shoulders 22*a* of the cover roll in its movements, as shown in Figs. 10 and 11.

Provision is included for enabling easy and quick operation of the cover or closure member 24 with minimum effort from and to closed position. For this purpose, in the construction shown, the rear end of the cover is connected to a suitable counterweight 42 movable vertically in guides 43 in the lower end of the enclosure 30, as by a pair of chains or cables 44, the upper ends of which are secured to the rear edge of the cover 24. The chains pass downwardly over sprockets 45 journalled on fixed brackets 46 mounted on the rear wall 42, thence beneath guide rollers 47 on the weight 42, and thence upwardly for connection to stationary brackets 48 secured on the adjacent end wall 33. By this construction, the counterweight 42 is required to travel only a short distance relatively to the cover 24, thus enabling the enclosure 30 to be compactly formed.

Suitable means are preferably provided for closing the slot 36, when the cover is in its record compartment closing position, and means are automatically actuated by the cover 24 to move therewith, when the latter is opened or closed, to open or close the slot 36, as the case may be.

The means shown comprises a horizontally disposed plate or slide 50 extending crosswise of and within the slot 36 with its opposite ends operatively engaging in suitable guides 51 secured on the adjacent end walls 33 of the enclosure 30. The front edge of the slide 50 is provided with a depending bead 52 which, when the cover 24 is in closed position, overhangs and engages the rear edge of said cover, so that as the cover assumes an inclined position, when being opened, it will

engage said bead and move the slide 50 rearwardly in its guides 51 to the position shown in Fig. 8, during the movement of said cover from its horizontal to its vertical position.

In order to return the slide 50 to its slot closing position, the cover 24 is provided at its rear edge with an upstanding flange or projection 55 which, in the upward and forward movement of the cover 24, engages behind the bead 55 and draws the slide 50 forward with the cover 24 to slot closing position.

As shown in Fig. 8, the front edge of the top wall 35 is bent under and extended rearwardly to provide a narrow horizontal shoulder 56 against which, when the slide 50 is in closed position, an upwardly extending, horizontal shoulder or projection 57 upon said slide engages so as to prevent forward movement of the slide, thereby maintaining it in its intended slot closing position, and in operative relation to the flange 55 of the cover 24. Any other suitable means may be provided for closing the slot 36, when the cover 24 is in its closed position.

As shown in Fig. 1–5, the adjacent enclosures 30 of the units B are preferably alined and connected by plates or members 58 overlapping and detachably secured to the abutting lower corners of said enclosures.

In the construction shown in the drawings, each of the carriage guides or tracks 10, beforementioned, is preferably formed of separate horizontal sections 60 corresponding in length to the width of the units B, each section 60 being rigidly secured to a unit in alinement with the sections on adjacent units and with the ends of the sections abutting and preferably connected together.

Each of the track sections 60 includes a vertical flange or portion 61 by which it is secured to the front flange of the frame 17 of the unit, beneath the front wall 12 thereof, and a horizontal forwardly extending bottom flange 62 terminating in an upright edge or portion 63. Over this edge 63 is fitted an inverted U-shaped track or wear member 64, which is preferably removable, and upon which the rollers 11 of the carriage C engage and travel in the movements of the latter. By providing removable track portions 64, these parts can be renewed, when worn, without disconnecting the sections 60 from the filing structure. The adjacent abutting ends of the track sections 60 can be connected and maintained in alinement by any suitable means, such, for example, as a connecting block or plate 65 overlapping the adjacent ends of the flanges 62 of the sections and disposed between the upright attaching portion 61 and the upright edge portion 63, and secured to said flanges by screws or other fastening devices 66, as shown in Fig. 12.

The carriage C preferably operatively engages, or is supported upon the tracks 10 by a cantilever mounting. The platform, is therefore, provided with two rollers 11 at each side thereof, these being disposed in horizontal spaced relation, preferably at that end of the carriage upon which the seat D is disposed, see Figs. 4 and 7. This arrangement permits that end of the carriage upon which the desk or support E is mounted to project outwardly beyond the rows of units B at one end of the structure, when the carriage is in its extreme advanced position, as shown in Figs. 2 and 7, since the opposite, forward rollers 11 can travel to the extreme end of the guides 10 on said end units. This construction allows the desk to be thus supported while the carriage is, nevertheless, held in engagement with the guide tracks by its own weight, while permitting the operative to move opposite the said end units of the groups A and A′ to gain access to records therein, without moving from the seat D, see Figs. 2 and 4.

When the carriage is shifted in the opposite direction, the rear pair of rollers move to the opposite end of the tracks 10, permitting the seat to be disposed between the two units B and at that end of the groups A and A′, and the occupant to have access to the records in said units while remaining seated.

Suitable stops are provided at the opposite ends of the tracks 10 against which the respective pairs of rollers 11 can abut to prevent the carriage from leaving the tracks. These stops in the construction shown, see Fig. 6, each comprises a metal plate 67 extending upwardly from the outer end of each of the end track sections 60 transversely of the removable piece 64. The plate 67 is provided with offset lugs or bent portions 68 and 69 which are welded or otherwise secured to the underside of the adjacent track flange 62 and to the attaching portion 61 of the track section respectively.

By thus arranging the rollers 11 of the carriage C, the forward end of the carriage can project beyond the groups of units at one end of the structure, while the guide tracks 10, nevertheless, are of the same length as the groups A, A′ and do not project beyond the same at either end. This construction also permits the number of units B in the groups A and A′ to be changed at any time by merely disconnecting the appropriate track section connecting plates 65, removing the attaching bolts 20 of the unit frames 17, and the connecting p'ates 58 of the adjacent cover compartments 30. The detached end units B can then be shifted to the desired location and the desired intermediate units added or removed. If the records *b* in the several units are to be maintained in consecutive order, they can be quickly re-arranged by transferring the baskets or supports 26, without disturbing the records therein.

While the tracks 10 are shown and de-

scribed as being mounted on the units B, guides mounted on the floor or elsewhere could be used, the carriage C having rollers appropriately mounted for engagement therewith.

The carriage C is preferably formed of sheet metal plates and light structural bars, and includes a skeleton frame or base 70 disposed a short distance above the floor and which is formed of opposite longitudinal angle bars 71 and end bars 72 and 73. Connected to and extending upwardly from the upright flanges of the frame 70 is a pair of side plates 74, a rear plate 75 and a front plate 76. One of the side plates 74 extends the length of the carriage C, while the other is separated into two portions, including a narrow front portion 82, and leaving between this and the main portion 74 thereof an opening 83.

Extending crosswise of the carriage between and connected to the side plates 74 is an intermediate upright plate 77, and extending rearwardly from this plate 76 to the rear plate 75 and connected to both is a pair of parallel channels 78, the front and rear ends of which are connected respectively to the plates 75 and 77 by angle corner pieces 79. These channels are arranged with their flanges extending inwardly, and said channels are in turn connected between their ends to the side plates 74 by intermediate cross braces or plates 80 and upright attaching angles or bars 81.

As shown in Figs. 5 and 7, the seat or chair D is supported on a slide 88 disposed between the channels 78 and which is movable lengthwise thereof to enable the seat to be adjusted towards and from the desk or support E in order to accommodate the stature and convenience of different operatives.

The slide 88 includes a block 90 formed with a vertical bore or passage 91 for the reception of the sleeve of the usual vertically adjustable and rotatable swivel or spindle 92 of the seat. The block is disposed between and rigidly secured to a pair of oppositely facing bent plates 93 provided with outwardly extending lower flanges 94 which slidably engage upon horizontal track bars 95 fixed to the inner vertical faces of the channels 87. The plates 93 are also preferably provided with laterally extending horizontal upper flanges 96 which engage and are confined beneath the inwardly extending top flanges of said channels and preferably terminate in outer depending edge portions 97 engaging the inner faces of the opposite channel webs.

In order to adjust the slide 88 lengthwise of the carriage, the depending edge portion 97 of one of the slide plates 93 is provided with a threaded stud or bolt 98, which projects through a horizontal slot 99 in the web of the adjacent channel 87 and is provided at the outer side of the latter with a clamping nut or device 100. Thus, by loosening the nut 100, the slide 88 and its seat D may be adjusted towards or from the desk E, or lengthwise of the carriage C, and secured in position by again tightening the nut.

The desk or support E is also preferably formed of sheet metal and includes an upright longitudinal side plate 101 secured to the long side plate 74 of the carriage C, a narrow upright side plate 102 connected to the opposite narrow portion 82 of the other side plate 74, and a transverse upright wall 103 connected to the end plate 76 of said carriage.

The opening 83, beforementioned, is closed by a vertical plate 104 having one of its upright side edges pivotally connected to the upright side edge of the plate 102 by spring hinges 105, which yieldingly hold the opposite edge of the plate 104 against the upright free edge of the plate 74 at that side of the carriage and which forms the opposite side of the opening.

By this construction, a door is provided which, when swung inwardly, as shown in dotted lines in Fig. 13, permits ingress and egress into or from the carriage C and its seat D when the carriage is moved to its extreme advanced position, as shown in Figs. 2, 4 and 7.

The three upright stationary plates 101, 102, and 103, and the movable plate or door 104 all project upwardly above the top edges of the side plates of the carriage C to a height such that a suitable desk top or supporting structure can be mounted thereon.

This structure includes a supporting plate, wall or shelf 110 which is preferably inclined downwardly towards the seat D and rests upon the correspondingly inclined top edges of the stationary plate 101 and the door 104. The rear edge of the shelf 110 is preferably hinged or otherwise connected at 114 to the front edge of a transverse horizontal fixed plate 115 extending therefrom to the back plate 103 and to the opposite side plates 101 and 102 of the desk. If desired, a suitable rack or container 116 for cards, ink wells, pens and other miscellaneous articles can be mounted upon the plate 115.

When the operator desires to enter the carriage, and assuming the carriage to be in said advanced position with the desk projecting beyond the ends of the banks A, A', the shelf 110 is swung upwardly on its hinges against the rack 116 and the door 104 swung inwardly, as shown in Fig. 7, allowing the operator to easily step through the opening 83 over the adjacent low side rail of the carriage frame 70, and then by occupying the chair D and releasing the door 104 the latter will close and the shelf 110 can be lowered.

The operative can then propel the carriage to any desired position between the banks or groups A, A' of the units B, by manipulation

of her feet upon the floor, since the carriage base 70 is of open or skeleton construction.

I claim:

1. A filing unit comprising a relatively low open topped compartment having opposite parallel side and end walls and a bottom wall, all of fire-proof construction, means for supporting a plurality of records on edge in said compartment so that all of said records are accessible at one time, a horizontal cover for said compartment which is also of fire-proof construction, interfitting shoulders on said cover and said side and end walls of said compartment, said cover being movable from its horizontal compartment closing position to an upright position at the back of and adjacent said compartment to uncover and expose the records therein, a separate upright narrow enclosure at the back of said compartment into which said cover extends when in said upright position, said enclosure having a narrow opening through which said cover passes into and out of said enclosure, a slide for closing said opening when said cover is in its horizontal compartment closing position, and which is movable to an open position by the movement of said cover to its upright position, and means for returning said slide to a position in which it closes said opening when said cover is returned to its compartment closing position.

2. A filing unit comprising a relatively low open topped compartment having opposite parallel side and end walls and a bottom wall, all of fire-proof construction, means for supporting a plurality of records on edge in said compartment so that all of said records are accessible at one time, a horizontal cover for said compartment which is also of fire-proof construction, interfitting shoulders on said cover and said side and end walls of said compartment, said cover being movable from its horizontal compartment closing position to an upright position at the back of and adjacent said compartment to uncover and expose the records therein, a separate upright narrow enclosure at the back of said compartment into which said cover extends when in said upright position, said enclosure having a narrow opening through which said cover passes into and out of said enclosure, a slide for closing said opening, and means for automatically opening and closing said slide by the movement of said cover to and from its open position.

CHARLES B. ULRICH.