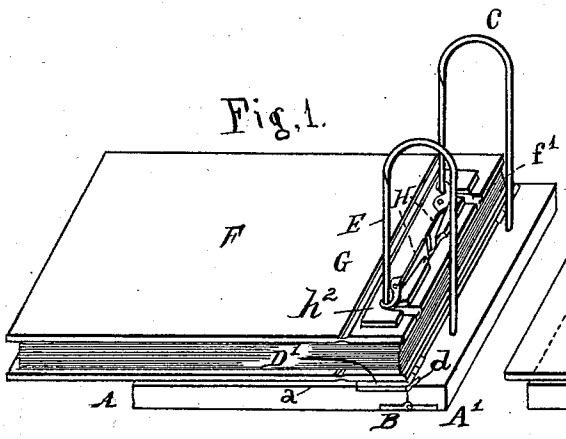
(No Model.) 2 Sheets—Sheet 1.

F. W. ADAMS.

FILE FOR BACK ORDERS, BILLS, LETTERS, &c.

No. 534,624. Patented Feb. 26, 1895.

Fig. 1.



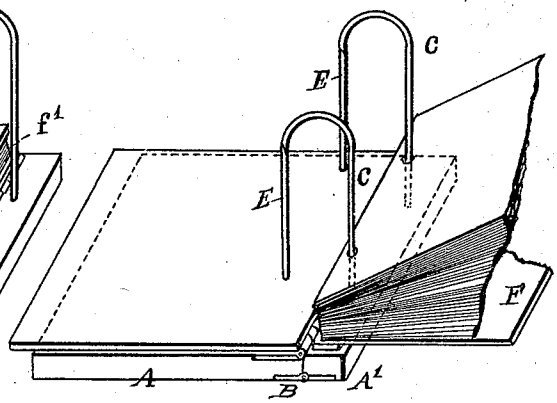


Fig. 6.

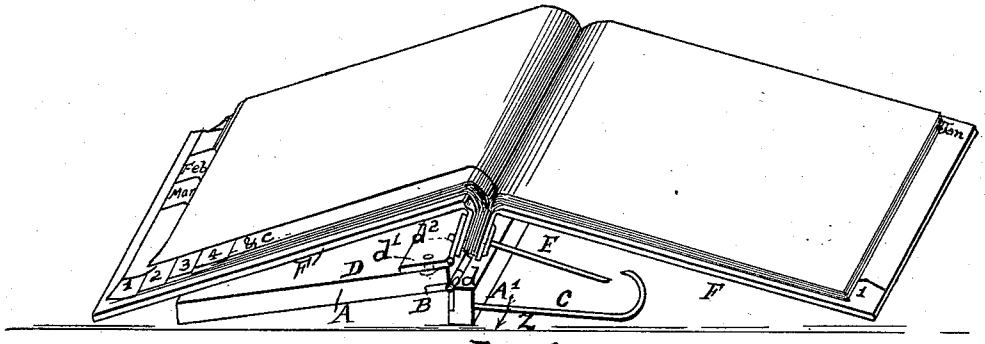


Fig. 2.

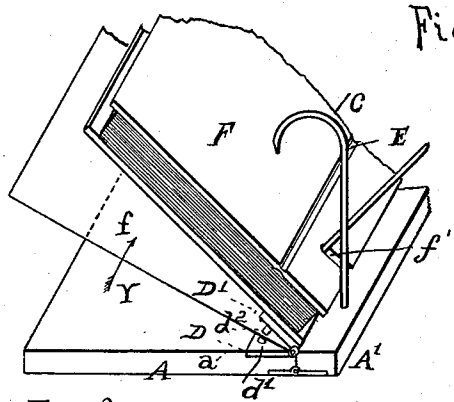


Fig. 3.

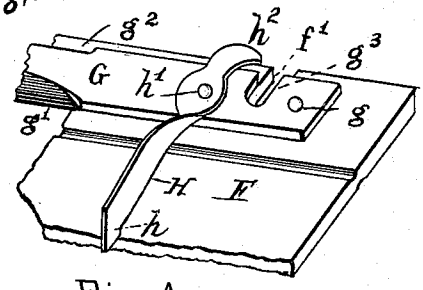


Fig. 4.

Witnesses.
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by N. DuBois, his Atty.

(No Model.) 2 Sheets—Sheet 2.

F. W. ADAMS.

FILE FOR BACK ORDERS, BILLS, LETTERS, &c.

No. 534,624. Patented Feb. 26, 1895.

Fig. 7.

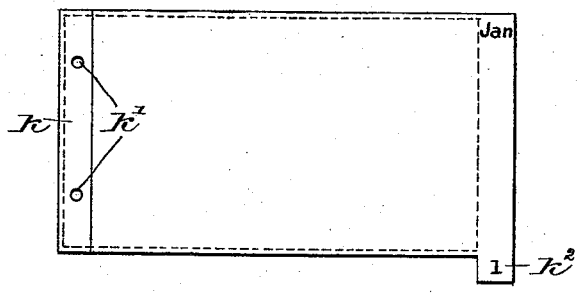


Fig. 5.

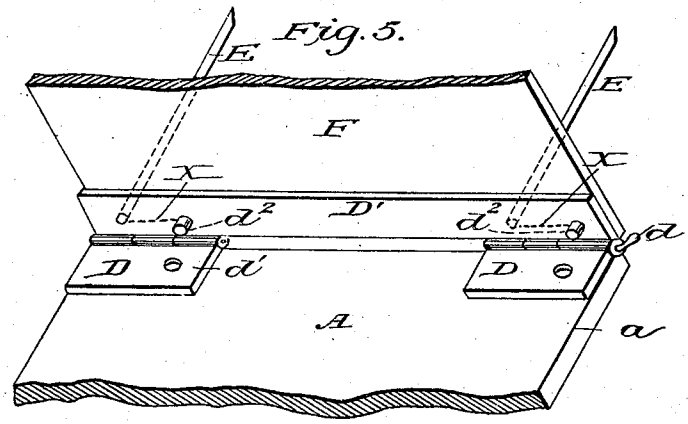
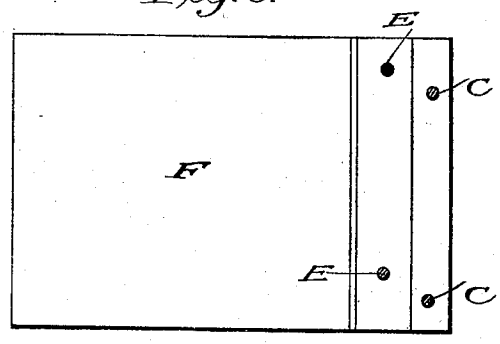


Fig. 8.



Witnesses.
Jas Bailey.
John L. Wightfoot.

Inventor.
Fred W. Adams.
by his Atty N. DuBois.

UNITED STATES PATENT OFFICE.

FRED W. ADAMS, OF CHICAGO, ILLINOIS.

FILE FOR BACK ORDERS, BILLS, LETTERS, &c.

SPECIFICATION forming part of Letters Patent No. 534,624, dated February 26, 1895.

Application filed November 28, 1893. Serial No. 492,298. (No model.)

To all whom it may concern:

Be it known that I, FRED W. ADAMS, a citizen of the United States, residing at No. 1102 Marianna street, in the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Files for Back Orders, Bills, Letters, &c., of which the following is a specification.

My invention relates to files of that class in which the papers to be filed are punched near their upper edges to adapt them to be placed on vertical pins, connected with the file, in such manner that the sheets may be retained in the file in shape for convenient reference and when desired may be conveniently transferred to curved pins connected with the file and contiguous to said vertical pins, so that any desired sheet may be removed or inserted and all the sheets may then be restored to the vertical pins without rehandling each sheet separately.

The purposes of my invention are to provide improved means for punching the sheets as stated, which shall be more convenient than that heretofore used and which shall also be adapted to simultaneously punch both holes in the sheets in such manner that when the sheets are placed on the pins in the file they will not cover up nor obscure the indices with which the file is provided; to provide indices of improved construction in connection with the file; to provide means whereby the top cover may be clamped in any desired position on the pins E in order to securely retain in position the contents of the file, no matter to what extent the file may be filled; to provide means whereby the covers and contents may be conveniently opened out from the center on both sides similar to a wide open book, so as to bring in full view the whole of the written matter on all of the sheets. In files of this class as heretofore commonly constructed only one of the covers is adapted to turn upward, the other cover remaining in a horizontal position, the result being that where a large number of sheets are filed between covers the upper cover cannot be raised high enough to expose to view the writing nearest the punched edges of the lower sheets in the file. My improvement is designed to obviate this objection.

Another purpose of my invention is to provide means whereby when the file is wide open as a book it may be closed by downward pressure on the left hand cover so as to bring the ends of the curved pins and the vertical pins in close contact with each other, the entire weight of the file and contents serving to keep the pins in contact.

Another purpose of my invention is to provide simple and effective means whereby the papers accumulating on the file when the file is full may be conveniently transferred to permanent binding covers, or may be transferred from one file to another, without the necessity for handling the sheets.

Files as heretofore commonly constructed have employed springs, cams, levers, or other complicated mechanism for the purpose of regulating the position of the curved rods and the vertical pins relative to each other. Such devices are unsatisfactory in operation and are easily broken or displaced. It is my purpose therefore to provide means whereby the curved rods and the vertical pins may be automatically retained in proper relation to each other, thereby avoiding the use of the complicated mechanism which I have just described.

These purposes I attain by the mechanism herein described and illustrated in the accompanying drawings to which reference is hereby made, in which—

Figure 1 is a perspective view of the file closed. Fig. 2 is a perspective view of the file wide open for reference, and shows some of the index sheets in position in the file. Fig. 3 illustrates the file with the covers and contents partially raised and shows a sheet inserted for the purpose of being punched. This view also illustrates the position of the straight pin and the curved rod relative to each other when the covers and contents are partially turned backward as shown. Fig. 4 is an enlarged detached view of one side of the clamping mechanism in connection with the top cover. Fig. 5 is an enlarged detached view of the punching mechanism and shows the position of the punches relative to the vertical rods, also shows the position of the punching mechanism relative to the guiding edge of the base. Fig. 6 illustrates the method of

transferring papers from the file to a permanent binder. Fig. 7 is a top view on a reduced scale of one of the index sheets. Fig. 8 is a top plan of the closed file and illustrates in section the curved rods and the filing pins in line with each other in a direction oblique to the longitudinal edges of the cover.

Similar letters indicate similar parts in all of the views.

The base is of wood and consists of two members, A and A', joined by hinges, B, of any suitable form.

The curved rods, C, are secured in a vertical position on the member A'. The curved rods C and the pins E are in line with each other in a direction oblique to the direction of the longitudinal edges of the covers F. The rods and pins are placed in this position relative to each other in order that when the covers and contents are raised as shown in Fig. 3 the pins E will pass clear of and not strike the curved rods C.

In the drawings I have shown the base formed in two parts hinged together, the curved rods C being vertically secured to one of these parts and the pins E having a hinged connection with the other part of the base. I do not, however, confine myself to this particular construction as it is obvious that the base may be formed in one piece and the curved rods C, and the pins E may both have a hinged connection with said base without departing from my invention.

The lower cover F is connected with the base-member A by hinges clearly shown in Fig. 5. The hinges consist of two members D and D' and are provided with punching mechanism as hereinafter described. The hinge members D are secured in any suitable manner to the base member A, and the hinge member D' is secured to the lower cover F in any suitable and convenient manner. The hinge member D' turns on pins d which connect the members D and D' and which are removable in order that the lower cover may be readily detached from the base member A. In each of the hinge members D is a hole or die d' adapted to receive a punch. On the hinge member D' are two downwardly projecting punches d^2 adapted to work in conjunction with the dies d'. The pins E are riveted or otherwise suitably secured in a perpendicular position on the members D'. The distance between the punches d^2 and the hinged edges of the members D and D' is equal to and determines the distance of the punched holes in the paper from the edge of the sheet which is to be filed. The position of the punches d^2 relative to the pins E is such that the transverse distance X from one of the punches d^2 to the adjacent pin E is equal to the width of the marginal index on the index sheet. The punches are on the same side of the pins respectively, and the distance between the punches d^2 is equal to the distance between the pins E. In other words; at the right hand end of the hinge member D' the punch d^2 is adjacent to the end of the hinge and the pin E is to the left of the punch a distance equal to the width of the margin of the index sheet. At the left hand end of the hinge-member D', the pin is adjacent to the end of the hinge and the punch is to the right of the pin a distance equal to the width of the margin of the index sheet.

Instead of using hinges having three parts as shown, viz: one long member secured to the cover and two short members secured to the base, I may without departing from my invention use two long members, one secured to the cover and the other secured to the base; or I may use two separate hinges each having one member secured to the cover and the other member secured to the base. By reason of this construction and arrangement of the several parts I am enabled at one operation to punch both holes in the sheet to be filed, in such position that the two holes will coincide with the two pins E, so that the sheets may be readily placed on the pins, and so that when the sheets are placed on the pins they may not overlap and conceal the marginal index.

The hinged edges of the members D, D' and one of the side edges a of the base member A serve as guides when inserting the sheets to be punched.

In practice when a sheet f is to be punched it is inserted between the hinged members D and D' until it stops against the hinged edges of the members as shown in Fig. 3. The edge of the sheet is then placed along side of that edge a of the base member A which is adjacent to the punch d^2 and the member D' is pressed down thereby punching the holes in the sheet in a manner well known. By this means perfect uniformity in punching is obtained and the sheets when in the file always present two smooth edges giving the bound sheets a neat appearance.

The upper and lower covers F each consist of two sections of pressed paste-board preferably covered with canvas, said canvas forming a flexible hinge between said sections. The top cover has in one of its edges notches f' adapted to receive the vertical pins E and the lower cover has corresponding holes through which said pins pass as shown in Figs. 1 and 2.

The index consists of a series of sheets to be interleaved among the papers forming the contents of the file. The form and general arrangement of these index sheets are clearly shown in Figs. 7 and 2 respectively. These index sheets are double faced, that is to say names of months and numerals are printed on both sides of each sheet in such a manner that whichever side of the sheet is in view the index may be correctly and conveniently read. On the left hand margin of each monthly sheet is printed the name of one of the months

of the year, and on the bottom margin of successive sheets are printed numerals in consecutive order designating the days of the month.

The method of arranging the index sheets in the file is as follows:—For example to arrange the index for the month of January, the index sheet having on its left hand margin the name January and at its bottom margin the numeral 1 is placed on the file by inserting the pins E through the holes in the upper margin of the sheet. All papers to be filed as of date of January 1 are then placed in succession on the file. These papers are all of such size as to come within the margins of the index sheets as indicated by dotted lines in Fig. 7 so as not to conceal the names of the months and the reference numerals on said margins. For the second day of the month the sheet having on its left hand margin the name of January and at its bottom margin the numeral 2 is then placed on the file as already described and all papers to be filed as of date January 2 are successively placed on the file and this operation is repeated as many times as there are months and days in which papers are to be filed. Ordinarily the contents of a single file will not run more than four or five months, but as many monthly index sheets and as many corresponding daily index sheets may be used as the business may require or the capacity of the file admit. In practice I prefer to use for monthly index sheets, a sheet of paste-board K having a strip of muslin k or other suitable material glued to one edge so as to form a hinge, said strip having holes k' to receive the pins E, said index sheets having flaps k^2 for name of month and date. The daily index sheets are preferably made of light and tough paper.

When the indexed papers have been placed on the file as I have just described the top cover F is adjusted on top of the paper so as to bring the notches f' of the top cover in position to receive the pins E. The top cover is then secured in position by means of the clamping mechanism.

Here it may be observed that one objection to files of this class as heretofore constructed is that means have not been provided for clamping the contents of the file securely on the pins E, the result being that with frequent handling the papers become worn and finally are detached and lost by reason of tearing out at the punched edge. This objection is completely obviated by my clamping mechanism which I will now describe.

The clamping mechanism consists of a plate G secured by rivets g to the top cover F. One edge g' of the central part of the plate G is beveled as shown so as to guide the lugs h on the edges of the locking lever H up over the plate G in such position that the lugs h will engage with the edge g^2 of the plate G. The spring levers H are connected with the plate G by means of pivots h' and the levers turn on the pivots. The levers H, have at one end hooks h^2 adapted to engage with the pins E for the purpose of clamping the pins in the notches g^3. In the outer edge of the plate G are notches g^3 conforming to the notches f' in the cover F and adapted to receive the pins E.

When it is desired to place the top cover in position on the file the cover is placed so that the pins E enter the notches f' and g^3 in the cover, and the plate respectively. The levers H are then turned until the hooks h^2 engage with the pins and clamp the pins in the notches g^3 and until the lugs h pass over and engage with the edge g^2 of the plate G thereby locking the levers in position. It will be observed that a downward pressure on the cover is produced by the force necessary to carry the ends h of the levers H up over the inclined surface of the plate g' and that this pressure serves to compress the contents of the file and cause it to be securely bound between the covers, thereby avoiding any risk of accidental displacement or tearing in handling the contents of the file.

I am aware that clamping devices adapted to exert pressure against the filing pins in the transverse direction of the file have heretofore been used, but such devices are objectionable because they spread apart the upper ends of the filing pins so that the ends of the pins will not coincide with the perforations in the papers which are to be filed. Hence to avoid mutilation it is necessary to draw the ends of the pins together before papers can be filed. Furthermore when the upper ends of the straight pins are spread apart as stated they will not coincide with the ends of the curved rods, and the projections at the junction of the pins will catch and tear papers being transferred from one set of pins to the other. My clamping levers press against the pins in the longitudinal direction of the file and do not spread apart the upper ends of the pin. Hence the pins will aways coincide with the curved rods and with the holes in the papers which are to be filed. This is of obvious practical advantage.

I do not claim broadly clamping mechanism adapted to engage with filing pins, but restrict myself to clamping mechanism adapted to engage with filing pins in such manner as to press against the pins in the longitudinal direction of the file.

The operation of the mechanism is as follows:—To place a sheet on file, the sheet is first punched as already described. The clamp on the top cover is released by pressing against the adjacent ends of the levers H and the top cover is withdrawn away from the pins E. The curved rods C which are normally in contact with the upper ends of the pins E are then pushed back far enough and held to permit the sheet to be placed in the pins E. The curved rods C are then released and automatically return to their initial position. To

remove a sheet from the file the operation is reversed. To open the file for reference to its contents the top cover is raised bringing the side of the cover into engagement with the upper end of the curved rod C, as the cover is turned still farther in the direction indicated by the arrow Y it turns the curved rods C downward thereby causing the member A′ to be turned in the direction indicated by the arrow Z so as to bring the part A′ into an approximately perpendicular position, thereby elevating the central part of the file and causing the opposite pages thereof to slope off from the center in both directions like a wide open book so as to bring into full view all of the writing on the filed papers. To close the file it is only necessary to press downward with the hand on the left hand side of the file at the same time imparting a slightly longitudinal movement to the left hand file cover thereby causing a reversal of the operation of the mechanism, thus causing the file to close.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The punching mechanism for a paper file consisting essentially of two members joined by a hinge at their adjacent edges one of said members being connected with the base of the file and being provided with dies, the other member having vertical filing pins secured thereto adapted to support the file covers and contents, also having punches adapted to operate with said dies; in combination with a base supporting said punching mechanism and a cover connected with and adapted to operate said punching mechanism as set forth.

2. In a paper file the means adapted to simultaneously punch both of the holes in the papers to be filed in such position on said papers that when the papers are placed on the vertical filing pins the papers will not cover nor conceal the indices of the file, to wit: the hinged punching mechanism provided with filing pins and having punches in range with said filing pins, the transverse distance between said adjacent pins and punches being equal to the marginal width of the index sheets: in combination with a base with which one hinge member of the punching mechanism is connected and a cover with which the other hinge member of the punching mechanism is connected as set forth.

3. A hinged base for a paper file; in combination with curved rods supported on one member of said base, hinged punching mechanism connected with the other member of said base, filing pins connected with said punching mechanism and covers adapted to fit on said pins and retain in place the contents of said file as set forth.

4. In a paper file, the clamping mechanism adapted to exert pressure on filing pins in the longitudinal direction of the file, in contradistinction to clamping mechanism adapted to press against the filing pins in the transverse direction of the file, to wit:—a bar secured to the top cover and having notches to receive filing pins, levers fulcrumed on said bar provided with hooks adapted to engage with the filing pins in the longitudinal direction of the file and having means adapted to lock said levers in engagement with the filing pins; in combination with the base and filing pins connected with said base, substantially as set forth.

5. An index sheet for paper files consisting of a pressed-board having a punched strip secured to one edge thereof and forming a hinge and having on the left hand margin the name of the month and on the lower margin a numeral designating the day of the month; in combination with a base, punching mechanism connected with said base, filing pins secured to and supported on said punching mechanism, and hinged covers adapted to be connected with said pins as set forth.

6. In a paper file the mechanism adapting the file to open from the center outward in both directions like a book, consisting of a hinged base, curved rods connected with the shorter member of said base, filing pins having a hinge connection with the longer member of said base and hinged covers adapted to be connected with said filing pins, one of said covers also being adapted to engage with the upper ends of the curved rods causing them to be turned downward and causing the short member of the base to assume an approximately vertical position thereby elevating the central part of the file, as set forth.

7. The mechanism adapting the file to be closed by downward and slightly longitudinal pressure of the hand on one side of the file, to wit: the combination of the hinged base the shorter member of said base being adapted to serve as a central support for the file, the filing pins having a hinged connection with said base and the covers connected with said pins, as set forth.

8. The combination in a paper file of the base consisting of two sections hinged together, the curved rods secured to the shorter section of said base, the filing pins having a hinged connection with the longer section of said base, said pins and curved rods being in a line with each other in a direction oblique to the longitudinal edge of the base, and the covers adapted to be connected with the filing pins, as set forth and for the purpose stated.

9. The combination of the hinged base, the curved rods secured to the shorter member of said base, the filing pins having a hinged connection with the longer member of said base, the punching mechanism connected with said base, the covers detachably connected with the pins, the index sheets between said covers adapted to fit on said pins and the clamping mechanism adapted to clamp the top cover to

said pins, as set forth and for the purpose stated.

10. In a paper file, the curved rods adapted to turn backward, in combination with a base and vertical filing pins having a hinged connection with said base as set forth and for the purpose stated.

In witness whereof I have hereunto subscribed, at Springfield, Illinois, this 21st day of November, A. D. 1893.

FRED W. ADAMS.

Witnesses:
N. DU BOIS,
TAD. A. BAILEY.