F. E. RICHARDSON.

INDEX REFERENCE FILE.

APPLICATION FILED JUNE 4, 1907.

915,887.

Patented Mar. 23, 1909.

2 SHEETS—SHEET 1.

Fig. 1.

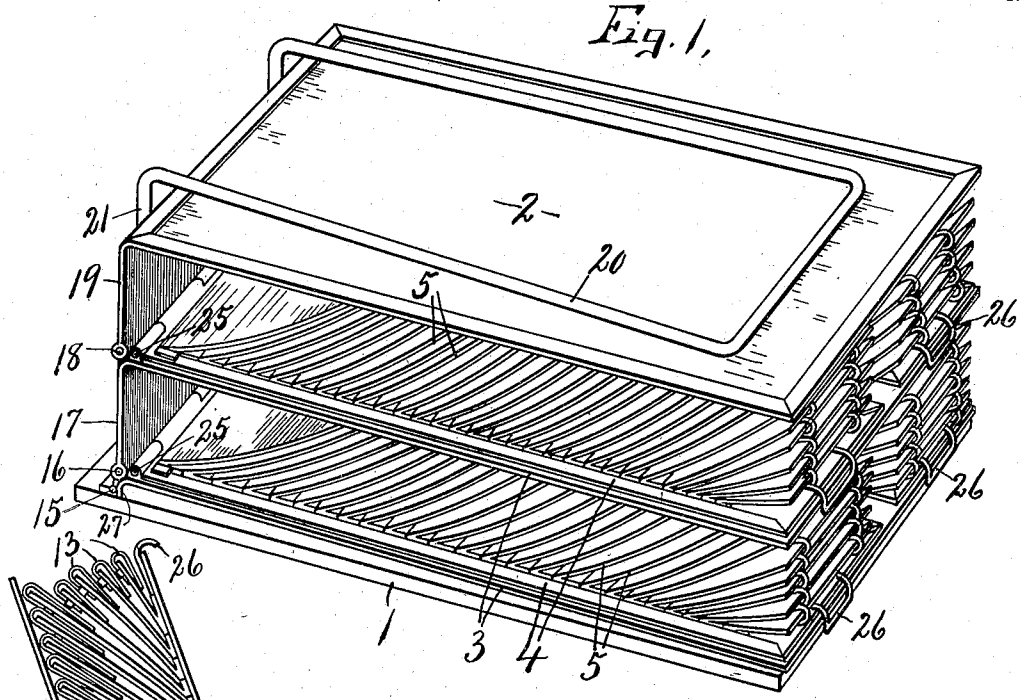
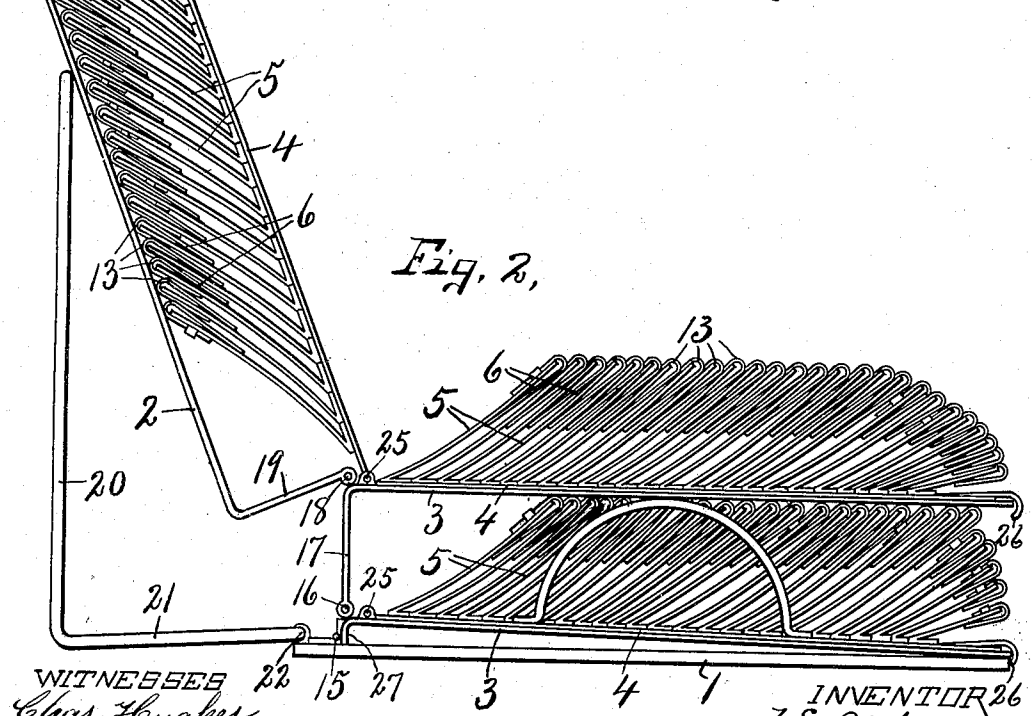


Fig. 2.



WITNESSES

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2 SHEETS—SHEET 2.

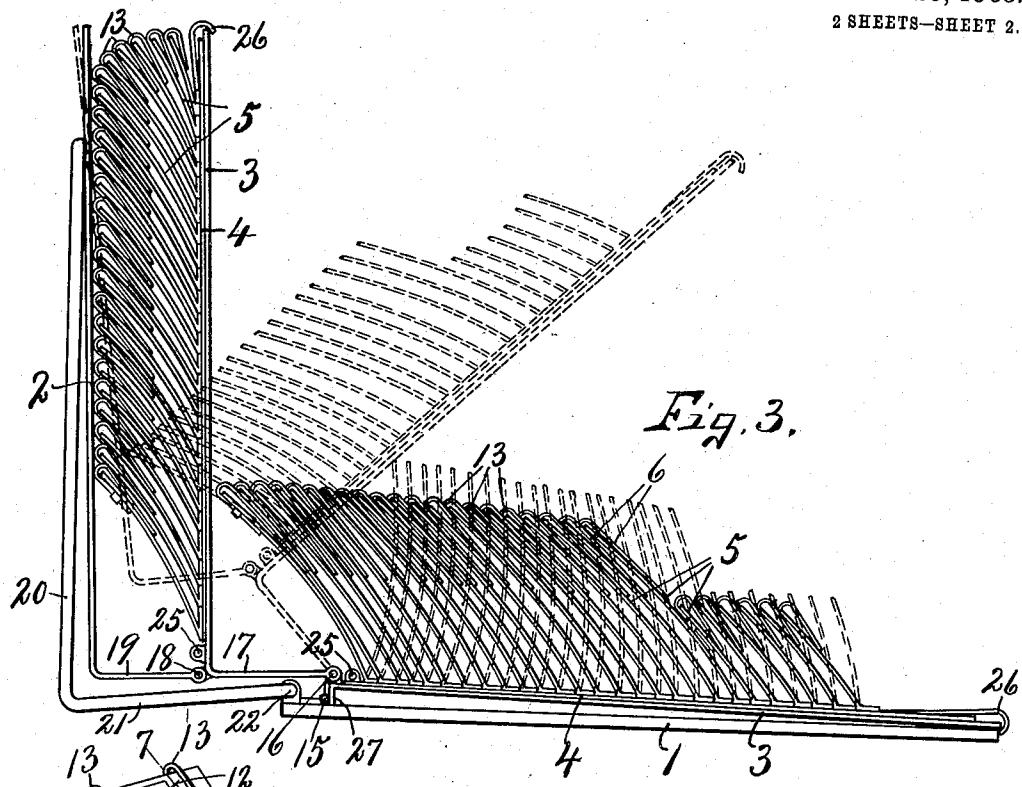


Fig. 3.

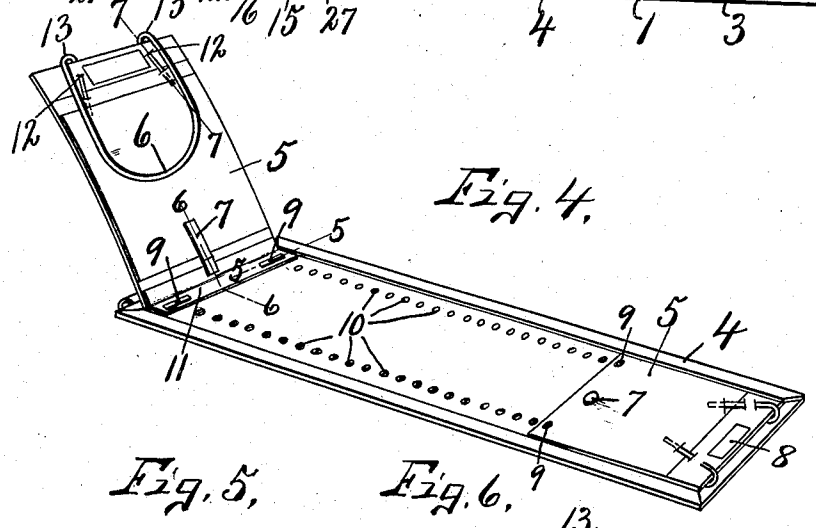


Fig. 4.

Fig. 5.

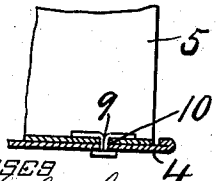
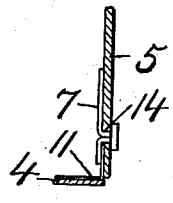


Fig. 6.



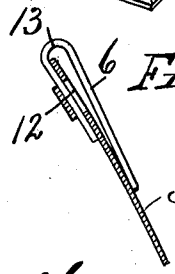


Fig. 7.

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UNITED STATES PATENT OFFICE.

FRANK E. RICHARDSON, OF CAZENOVIA, NEW YORK.

INDEX REFERENCE-FILE.

No. 915,887. Specification of Letters Patent. Patented March 23, 1909.

Application filed June 4, 1907. Serial No. 377,182.

To all whom it may concern:

Be it known that I, FRANK E. RICHARDSON, of Cazenovia, in the county of Madison, in the State of New York, have invented new and useful Improvements in Index Reference-Files, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to certain improvements in index reference files involving the use of loose leaf binders adapted for the reception and retention of account slips, bills, checks and other data which it may be desired to preserve for reference for limited periods of time, and which may be systematized under alphabetical or other suitable indexes or headings in such manner that any particular account or name may be instantly referred to with the binders in either position; that is, either thrown forwardly or normal.

My main object is to provide a folding reference file or loose leaf binder consisting of a plurality of separately swinging shelves, and a plurality of separately folding back pieces or plates each carrying a series of foldable leaves for the reception and temporary retention of loose leaves, such as bills, statements, accounts, checks, or other reference matter.

Another object is to associate these several shelves in such manner that when they are tilted from their normal position the several series of leaves will be automatically reversed by their own gravity, and when tilted in the opposite direction, such leaves will be returned to their normal position.

A still further object is to make each leaf a separate loose leaf-binder having an index on one side and a loose-leaf retainer on the opposite side holding the leaves in such position that the name or other character thereon may be made to appear when the leaves are folded one upon the other, thereby affording a double index for each loose-leaf binder or support.

Another object is to hinge the back pieces to their corresponding shelves by hinge pins which may be removed to permit the removal of the back pieces, when desired, and furthermore, to provide these back-pieces with suitable spring catches on their free ends adapted to interlock with the shelf to hold the back-piece in its normal position so that it may be folded in the reverse direction with the shelf.

Other objects and uses will be brought out in the following description.

In the drawings—Figure 1 is a perspective view of my improved reference file showing the parts in their normal or closed position. Fig. 2 is a side elevation of the device seen in Fig. 1, showing the top or cover and one of the back-pieces as unfolded or thrown back against the back-rest. Fig. 3 is a view similar to Fig. 2, showing one of the shelves and cover as unfolded or thrown back, said shelf being shown in dotted lines as partially returned to its normal position to show its action upon the leaves of the underlying shelf in returning said leaves to their normal position. Fig. 4 is a perspective view of one of the detached back-pieces showing one of the end leaves as unfolded, and the opposite end leaf as folded against the back-piece. Figs. 5, 6 and 7 are enlarged detail sectional views taken respectively on lines 5—5, 6—6, and 7—7, Fig. 4.

This device is preferably made up in book-form adapted to be folded in a comparatively small space and placed in a safe or other available place for preservation and safe keeping, and comprises essentially opposite covers —1— and —2— and one or more intervening shelves —3— each adapted to support a plurality of back pieces —4— which are foldable separately from each other and from the shelf upon which they are mounted, these back-pieces each supporting a plurality of separately foldable leaves —5—. Each leaf —5 and its adjuncts form what may be termed, a loose-leaf-binder, and has associated therewith, separate spring clasps—6— and —7— at one side or face of the leaf, while the opposite side of each leaf is provided near its free end with a space —8— for a name or other index character with which the name or other character on the leaf corresponds.

The device shown in the drawings is particularly useful in the preservation of short accounts or bills which are made out upon slips of paper of uniform size, adapted to be placed and held between the spring clasp —6— and leaf —5— with its lower edge held in place by the clasp —7. The leaves —5— of each back piece —4— are removably secured thereto by separate fastening devices —9— which are passed through apertures —10— in the back-piece —4— and through similar apertures in flexible flaps —11— by which the leaves —5— are hinged to the back piece.

The spring clasps —6— of the several leaves are substantially identical and each

preferably consists of a spring wire loop having its ends brought over the top and passed through apertures —12— in the leaf in such manner as to exert a spring tension of the wire loop against one side or face of said leaf, the overturned upper end of the spring forming stop shoulders or abutments —13— against which the upper edges of the loose sheets are brought, and thereby registered with each other.

The clasp —7— preferably consists of a bendable sheet metal tongue having a portion thereof passed through an aperture 14— in the bottom of the leaf —5— and secured therein by turning over the ends of the tongue against the leaf, the tongue —7— projecting from the bottom toward the loop or clasp —6— and serving to retain the bottom-edge of the loose sheets or bills in place against the leaf —5—.

It is now clear that the several leaves —5— of each back piece are detachably secured to the latter and may be folded backward and forward thereon by means of the flexible hinge-connection —11— and that one side or face of each leaf is provided with a pair of clasps —6— and —7—, one holding and registering the tops of the loose sheets, and the other holding the bottom edges of said sheets in place upon the leaf, said leaves being of substantially the same length and hinged one in advance of the other to the back-piece throughout practically the entire length of said back-piece, the leaves nearest the free end of the back-piece being somewhat shorter than the remaining leaves so as not to extend beyond the free end of the back-piece when in their closed position, as when the covers are closed.

The shelves —3— are nearly co-extensive with the area of the covers —1— and 2—, the first shelf of the series nearest the cover —1— being hinged thereto at one end by a pivotal pin 15— while the remaining shelf is hinged to the hinged end of the first named shelf by a pin 16— and is provided with a right angle offset —17— of sufficient height to support one end of said shelf in a plane above the free ends of the leaves —5— when folded to their normal position so as not to press too heavily upon said leaves which might strain their hinge connections with the underlying shelf. In like manner, the cover —2— is hinged by a pin 18— to the hinged end of the second shelf —3— at the junction of the offset —17— therewith and is itself provided with an offset —19—, which when the shelves are folded to their closed position lies in substantially the same plane as the offset —17— and corresponding end of the first shelf —3—.

An angular stop or abutment —20— is provided with a substantially right-angle-offset —21— which is hinged at —22— to the rear end of the bottom cover —1— a sufficient distance beyond the hinge-pin —15— to permit the front shelf —3— to be rocked forwardly and rearwardly clear from the hinge connection —22—, the length of the offset —21— being substantially equal to the combined lengths of the offsets —17— and 19—, and the slight offset, as —27—, of the first shelf —3—. This stop-arm —20— is foldable to and from a position over and upon the top of the cover —2— when the device is closed, and when unfolded its offset —21— lies in a nearly horizontal position while its remaining portion stands nearly in a vertical position, and is of nearly, but slightly less length than the cover so that when unfolded, as shown in Figs. 2 and —3— it forms an abutment against which the cover —2— rests, the cover serving a similar purpose for the leaves of the second shelf, while the second shelf itself performs a similar function for the leaves of the first shelf.

The back pieces —4— are hinged by removable pivotal pins —25— to their respective shelves a short distance in front of the hinge pins of said shelves, and are, therefore, separately pivoted or hinged and are held at their free ends flatwise against the top faces of the shelves by spring catches—26—so that by throwing the catch —26— from its holding position by hand, such back-piece may be rocked upwardly and rearwardly upon its own pivotal pin —25— independently of the shelf to which it is attached, or it may be removed entirely from the shelf by simply withdrawing the pivotal pin —25—, the outer ends of said pins being provided with suitable hand-pieces for this purpose.

It is now clear that this device comprises essentially a series of separable foldable shelves, each shelf bearing a plurality of separately movable hinged back-pieces and that each back piece carries a series of detachable folding loose leaf binders having spring clasps on one face and indexes on the opposite face so that when the leaves are folded in one direction, or forwardly flat down upon the back piece, their ends are exposed one beyond the other progressively from front to rear thereby exposing the indexes of each leaf, while on the other hand, when these leaves are folded rearwardly, the rear leaf abuts against the superposed shelf —3— or top —2—, thereby supporting all of the leaves on an inclined plane with their upper faces projecting and visible, one beyond the other from front to rear so that the accountant may readily locate any particular debtor's account, which is written upon the top of the sheet where exposed, thus producing a loose leaf binder with double indexes on reverse faces, which indexes are always visible when the leaves are folded either forwardly or rearwardly.

The distance between the hinges of the rear leaves of each shelf, and the upright portion of the next adjacent shelf, when unfolded

is less than the length of the leaves, which causes said leaves to be held in an inclined position so that when closing the device the shelf against which the inclined leaves rest operates to hold said leaves forwardly and downwardly, thus bringing all of the leaves to their normal positions by the mere act of closing the cover —2— forwardly and downwardly.

The object in making the back-pieces —4— separate and removable from their respective shelves is to avoid carrying the whole apparatus from place to place when only a part of the binders are needed for reference in some place remote from the repository for such apparatus, and this removal of the back-pieces may be effected by simply withdrawing their pivotal pins—25—.

It will be seen from the foregoing description that this device comprises a series of tiers of foldable loose leaf binders arranged side by side, and also one above the other, and that each tier is supported upon a separate removable back-piece capable of being attached to or detached from one of the shelves, and although, in this instance, I have shown a series of four tiers or rows of such loose-leaf binders, I may increase or diminish this number indefinitely without departing from the spirit of this invention.

What I claim is:

1. In a reference file, a shelf, a back-piece hinged to the shelf, and a plurality of leaves hinged to the back-piece one in advance of the other, and each provided with a clasp for receiving and retaining loose sheets.

2. In a reference file a support, a shelf hinged to the support, a back-piece hinged to the shelf, and a plurality of leaves hinged to the back-piece and each provided with a clasp for receiving and retaining loose leaves.

3. In a reference file, the combination with covers and an interposed shelf hinged to one of the covers, a back-piece hinged to the shelf, and a series of folding leaves hinged to the back-piece, one in advance of the other and each provided with a clasp for retaining loose leaves.

4. In a reference file, the combination with opposed covers and interposed shelves hinged to each other, one of said shelves being hinged to one of the covers, back-pieces hinged to said shelves, and folding leaves mounted on the back-pieces and each provided with a clasp for retaining loose leaves.

5. In a reference file, a pair of opposite covers and interposed shelves hinged to each other, one of said shelves being hinged to one of the covers, separate back-pieces each hinged to one of the shelves, movable means for locking each back-piece to its shelf, and a series of leaves hinged to each back-piece, each leaf being provided with a spring clasp for retaining loose sheets.

6. In a reference file, a pair of opposite covers and interposed shelves hinged to each other, one of the shelves being hinged to one of the covers and one of the other shelves being hinged to the other cover, an angular back-rest hinged to one of the covers and adapted to form a rest for the other cover when unfolded, and loose leaf binders mounted upon said shelves and provided with clasps for retaining the loose leaves.

7. In a reference file, a pair of oppositely folding covers and interposed shelves hinged to each other and to said covers, a folding back-rest hinged to one cover and disposed when unfolded in the path of the movement of the other cover to limit its swinging movement, back-pieces hinged to said shelves, spring catches for holding the back-pieces flatwise against their respective shelves, and folding loose leaf binders hinged to the back pieces one in advance of the other.

In witness whereof I have hereunto set my hand this 31st day of May 1907.

FRANK E. RICHARDSON.

Witnesses:
H. J. ROUSE,
L. J. BURROUGHS.