No. 668,114. Patented Feb. 12, 1901.

L. C. McNEAL.

FILE.

(Application filed Feb. 16, 1898.)

(No Model.) 3 Sheets—Sheet 1.

Fig. 1.

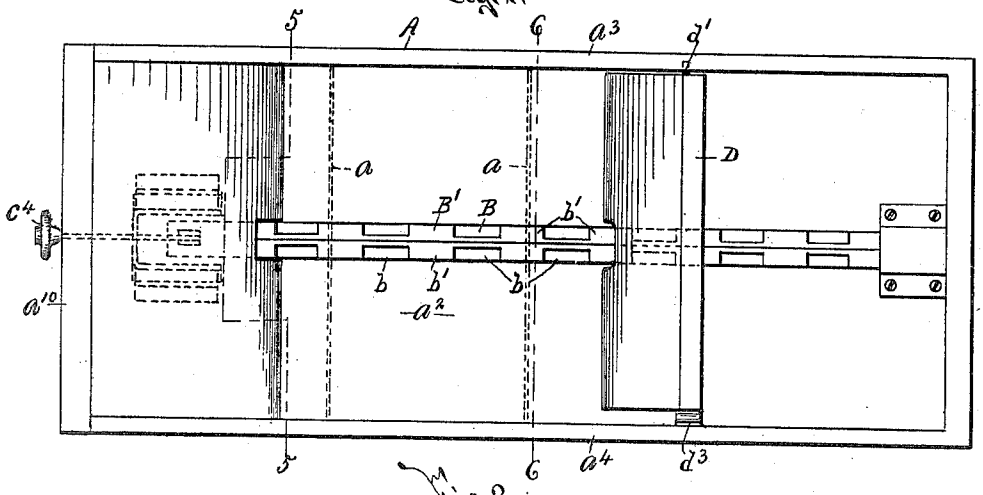


Fig. 2.

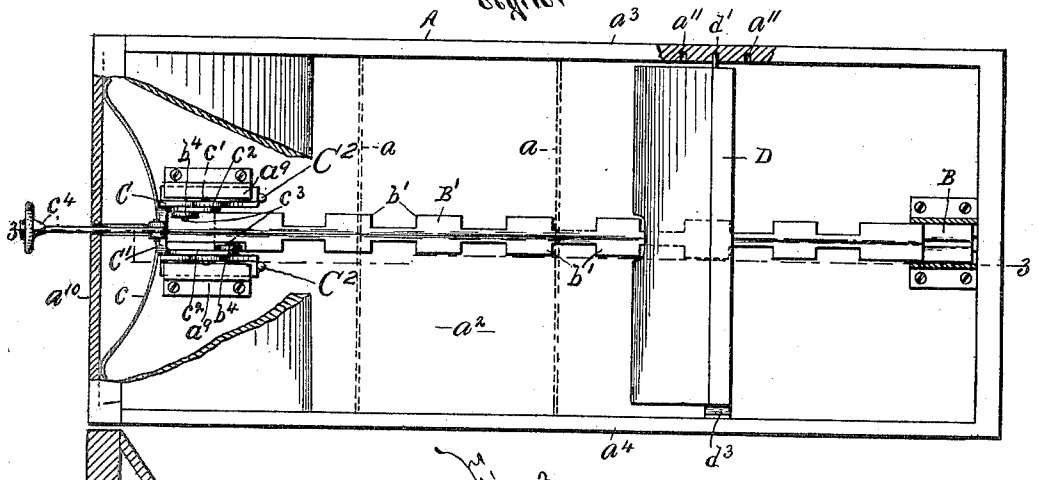
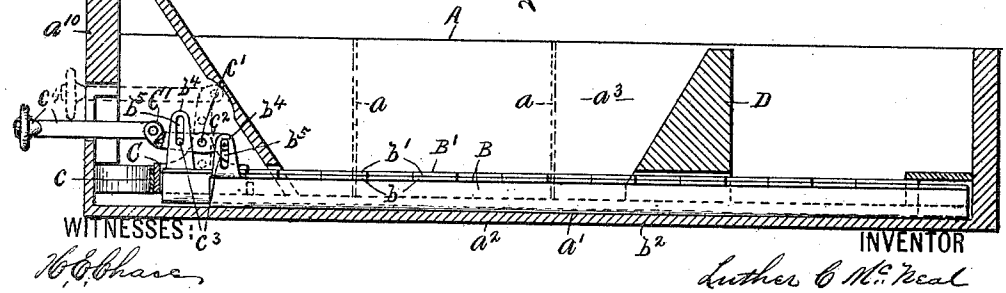


Fig. 3.



WITNESSES:

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ATTORNEYS.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 668,114. Patented Feb. 12, 1901.

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(No Model.) 3 Sheets—Sheet 2.

Fig. 4.

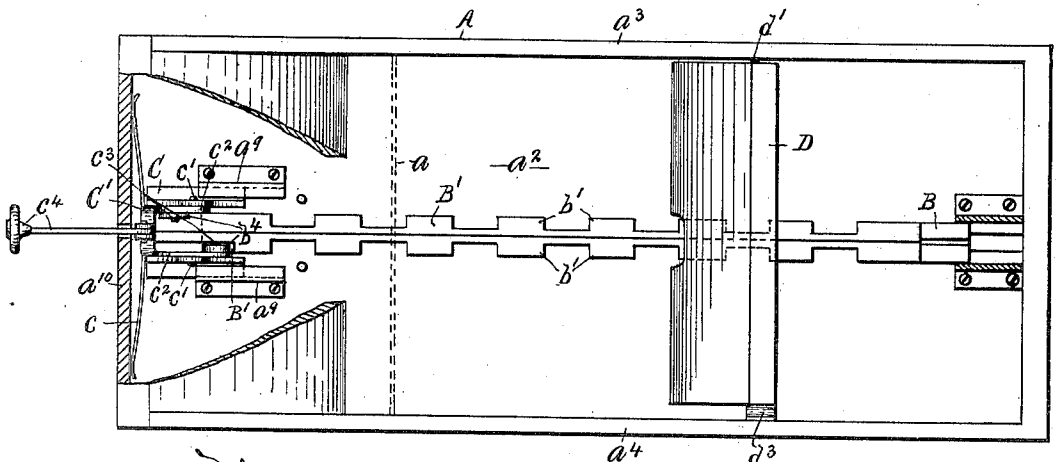


Fig. 5.

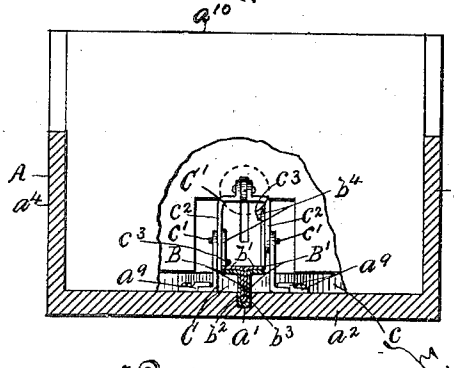


Fig. 6.

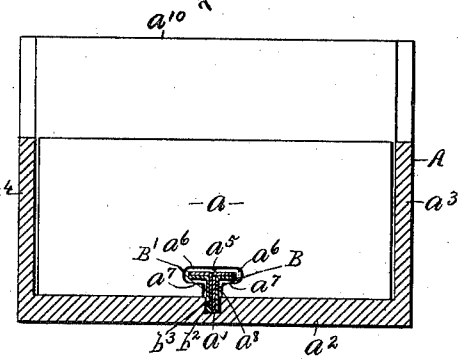


Fig. 7.

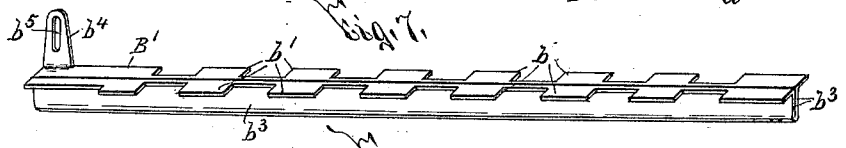
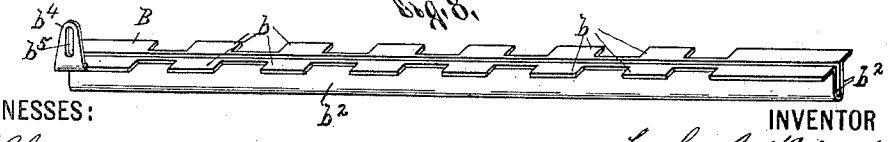


Fig. 8.



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FILE.

(Application filed Feb. 16, 1898.)

(No Model.) 3 Sheets—Sheet 3.

Fig. 9.

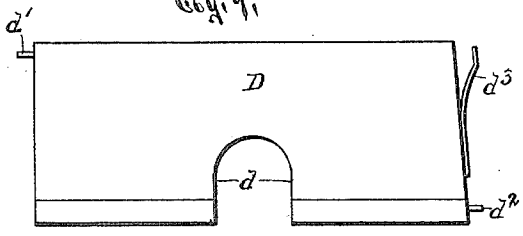


Fig. 10.

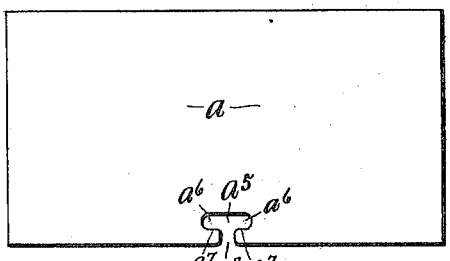


Fig. 11.

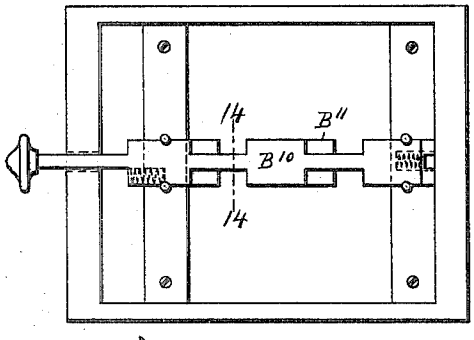


Fig. 12.

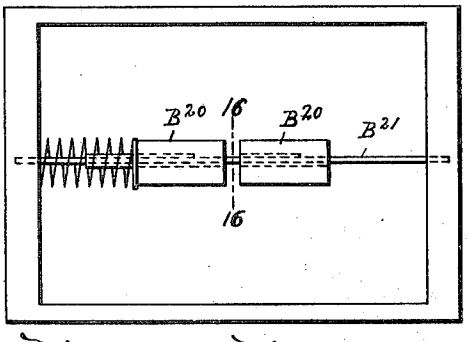


Fig. 13.

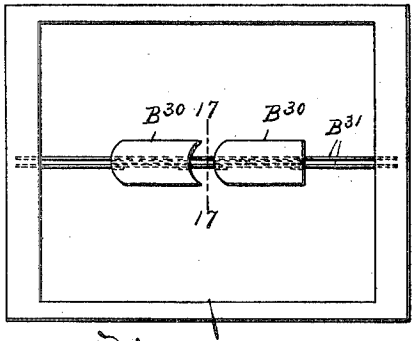


Fig. 14.

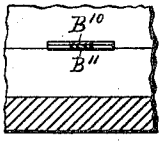


Fig. 15.

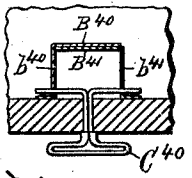


Fig. 16.

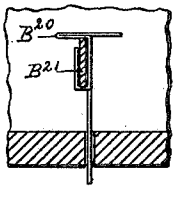


Fig. 17.

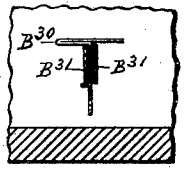


Fig. 18.

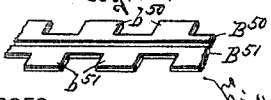


Fig. 19.



Fig. 20.



Fig. 21.



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UNITED STATES PATENT OFFICE.

LUTHER C. McNEAL, OF ROCHESTER, NEW YORK.

FILE.

SPECIFICATION forming part of Letters Patent No. 668,114, dated February 12, 1901.

Application filed February 16, 1898. Serial No. 670,472. (No model.)

To all whom it may concern:

Be it known that I, LUTHER C. MCNEAL, of Rochester, in the county of Monroe, in the State of New York, have invented new and useful Improvements in Files, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to improvements in files, particularly applicable for retaining cards or other articles provided with apertures or engaging shoulders and for permitting the insertion and removal of said cards or other articles, and has for its object the production of a device for the desired purpose which is particularly simple in construction and strong and durable in use; and to this end the invention consists in the combination, construction, and arrangement of the component parts of a file, as hereinafter fully described, and pointed out in the claims.

In describing this invention reference is had to the accompanying drawings, forming part of this specification, in which like letters indicate corresponding parts in all the views.

Figures 1, 2, and 4 are top plan views, partly broken away, of my improved file, the locking mechanism being shown in said views in its different positions assumed for retaining the cards or other articles in position and permitting their insertion and removal. Figs. 3, 5, and 6 are vertical sections taken, respectively, on lines 3 3, Fig. 2, and lines 5 5 6 6, Fig. 1. Figs. 7 and 8 are perspective views of the detached bars forming the locking mechanism of my improved file. Figs. 9 and 10 are face views of the detached follower of the file and one of the cards or other articles used in connection with said file. Figs. 11, 12, and 13 are top plan views of slightly-modified constructions of my improved file. Figs. 14, 16, and 17 are transverse sectional views taken, respectively, on lines 14 14, 16 16, and 17 17, Figs. 11, 12, and 13. Fig. 15 is a sectional view similar to Fig. 14, showing an actuating means for simultaneously reciprocating a pair of locking-bars similar to the locking-bars seen in Fig. 14. Fig. 18 is an isometric view of detached portions of a modified construction of locking-bars for my improved file. Figs. 19, 20, and 21 are sectional views of additional forms of locking-bars applicable for use in connection with my invention.

My improved file comprises in its organization a frame A for receiving cards, tickets, checks, notes, and other articles a and a locking mechanism for retaining said cards or other articles in position and permitting their insertion and removal. The frame A, which may be of any desirable form, size, and construction, is preferably rectangular and is usually provided with a longitudinal guide a' in its bottom wall a^2. The articles a are arranged crosswise between the lengthwise sides or walls a^3 a^4 of the frame A and are formed with apertures a^5, which are provided with enlarged inner portions a^6, oppositely-arranged engaging shoulders a^7, and contracted outer portions a^8, extending from said inner portions through the adjacent edges of the cards or other articles.

The locking mechanism of my improved file preferably consists of locking-bars B B′, which enter the apertures a^5 of the cards or other articles a', are usually attached at their ends to the frame A, and are provided with engaging portions or shoulders b b', movable longitudinally toward and away from each other in said apertures for retaining the cards or other articles in position and permitting their insertion and removal. The locking-bars B B′ are of suitable form, size, and construction, and their engaging portions b b' usually project at intervals, one in advance of the other, from longitudinal sides thereof, as seen in Figs. 1, 2, 4, 7, and 8. Said engaging portions or shoulders b b' are preferably normally separated from the adjacent surfaces of the enlarged inner portions a^6 of the apertures a^5 for preventing abrasion of the edges of said enlarged inner portions, and the outer side faces of one or both of the bars B B′ are usually arranged in close proximity to the edges of the contracted outer portions a^8 of said apertures for preventing endwise movement of the cards or other articles. The engaging portions or shoulders of one of the bars B B′ are preferably arranged above the plane of the engaging portions or shoulders of the other bar; but the engaging portions or shoulders of both of said bars may be arranged side by side, as illustrated in Fig. 18, in which figure B^{50} B^{51} represent a pair of

locking-bars having their respective engaging portions or shoulders b^{50} b^{51} arranged side by side.

The locking-bar B preferably consists of a longitudinally-folded strip of sheet metal having its lower edge movable in the guide a' and its longitudinally-folded parts b^2 provided at their upper edges with the engaging portions or shoulders b, which usually extend laterally therefrom at substantially right angles. The locking-bar B′ preferably consists of a similar longitudinally-folded strip having its lower portion movable between the longitudinally-folded parts b^2 of the bar B and the upper edges of its longitudinally-folded parts b^3 provided with the engaging portions or shoulders b', which generally extend laterally therefrom at substantially right angles and are arranged in close proximity to the engaging portions or shoulders b.

The locking-bars B B′, constructed and arranged as described, are particularly applicable for use in my improved file, since they are very stiff and strong. It is obvious, however, that said bars may be arranged side by side and that they may be provided with flanges or shoulders at their upper and lower edges or with curved engaging portions or shoulders, as indicated in Figs. 19, 20, and 21, in which figures I have shown locking-bars B^{60} B^{70} B^{80} of such construction. The locking-bars of my improved file may also be composed of flat pieces supported one above the other, as indicated in Figs. 11, 14, and 15, in which figures B^{10} B^{11} B^{40} B^{41} represent locking-bars supported one above the other. Said locking-bars may also consist of short pieces arranged one in advance of the other, as indicated in Figs. 12, 13, 16, and 17, in which figures I have illustrated locking-bars B^{20} B^{30} of said construction movably mounted upon supporting-bars B^{21} B^{31}.

The means for actuating the locking-bars B B′ may be of any desirable form, size, and construction and is here illustrated as consisting of a slide C and an operating member C′. The slide C is movable longitudinally in a guide a^9, provided upon the bottom wall a^3 of the frame A, and is held in its normal position against stops C^2 by a suitable spring c. The operating member C′ is usually connected to the slide C, being preferably pivoted thereto at one extremity by pivotal pins c'. The extremity of the operating member C′, pivoted to the slide C, is generally slotted or bifurcated for forming separated arms c^2, which are arranged at opposite sides of arms b^4, projecting upwardly from the adjacent ends of the locking-bars B B′. The arms b^4 are provided with slots b^5, extending at substantially right angles with the lengthwise planes of the bars B B′ for receiving pivotal shoulders or pins c^3, projecting from the inner faces of the arms c^2 at points on opposite sides of the pivotal pins c'.

The operating member C′ is preferably arranged in a substantially vertical plane when the locking-bars B B′ are in their normal position and is moved into and out of its operative position by a suitable handpiece c^4, which is flexibly connected to the operating member and is movable lengthwise through the front wall a^{10} of the frame A. As the handpiece c^4 is drawn forwardly the operating member C′ is rocked on its pivotal pins c' until said operating member assumes a substantially horizontal plane, with its pivotal shoulders or pins c^3 in front and at the rear of the pivotal pins c'. This movement of the operating member moves the locking-bars B B′ longitudinally in opposite directions into their inoperative position, with the engaging portions or shoulders b' directly above the engaging portions or shoulders b. The described construction of operating member is particularly applicable for moving the locking mechanism of my improved file, although other operating means may be used for this purpose, as illustrated in Fig. 15, in which figure C^{40} represents a rocking operating member provided with diverging arms connected to depending arms b^{40} b^{41}, provided upon the locking-bars B^{40} B^{41}.

After the locking-bars B B′ have been moved longitudinally in opposite directions for arranging the engaging portions or shoulders b b' one above the other said bars may be moved longitudinally in the same direction by additionally withdrawing the handpiece c^4 from the frame A, and thus moving the slide C against the action of the spring c, as shown in Fig. 4. The movement of the locking-bars in the same direction after their movement in opposite directions is particularly useful in permitting the ready removal of any card or other article a, which is prevented from removal by the engaging portions or shoulders b b' when arranged one above the other, as indicated in Fig. 2. The removal of said cards or other articles a may also be effected by moving the same lengthwise of the locking-bars B B′ into alinement with the spaces between the engaging portions or shoulders b b', and consequently the slide C may be dispensed with, and the operating member may then be pivoted to a stationary support. The operating member preferably holds the locking-bars in their operative and inoperative positions. and therefore no springs, catches, or stops for this purpose are necessary. It is obvious, however, that said locking-bars may be additionally held in their operative or inoperative positions by suitable springs, catches, or stops, which will be readily understood by those skilled in the art.

A follower D is usually movable lengthwise of the locking-bars B B′, is formed with an aperture d, alined with the apertures a^5 in the cards or other articles a, and is held in its adjusted position by any suitable means, which preferably consists of oppositely-arranged shoulders d' d^2 and a spring d^3. The shoulders d' d^2 project laterally from the end edges of the follower D and are removably

arranged in sockets a^{11}, formed in the lengthwise sides or walls a^3 a^4 of the frame A. The spring d^3 is interposed between one of the sides or walls a^3 a^4 and the adjacent end edge of the follower D and operates to force the opposite end edge of said follower toward the adjacent side or wall of the frame A. The described construction of follower is particularly simple and effective; but my invention is not limited thereto, since followers of different construction may be used, if desired.

The construction and operation of my improved file will now be readily understood upon reference to the foregoing description and the accompanying drawings, and it will be particularly noted that the same is strong and durable in use and necessitates the presence of an aperture of minimum size in the cards or other articles. It will also be noted that the exact construction and arrangement of the component parts of my improved file may be more or less varied, as indicated herein, and consequently I do not limit myself to such exact construction and arrangement.

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

1. A file comprising a frame for receiving cards or other articles having engaging shoulders, and a locking mechanism having engaging portions for engaging the shoulders, said portions being movable longitudinally in opposite directions and being also movable longitudinally in the same direction, substantially as and for the purpose set forth.

2. A file comprising a frame for receiving cards or other articles having engaging shoulders, and a movable locking-bar provided with separated engaging shoulders arranged one in advance of the other for engaging the former shoulders, substantially as and for the purpose specified.

3. A file comprising a frame for receiving cards or other articles having engaging shoulders, a locking-bar provided with separated engaging shoulders arranged one in advance of the other for engaging the former shoulders, and means for moving the locking-bar longitudinally, substantially as and for the purpose described.

4. A file comprising a frame for receiving cards or other articles having engaging shoulders, and a movable locking-bar having opposite longitudinal sides thereof provided with separated engaging shoulders arranged one in advance of the other for engaging the former shoulders, substantially as and for the purpose set forth.

5. A file comprising a frame for receiving cards or other articles having engaging shoulders, and a movable locking-bar composed of a longitudinally-folded strip having its longitudinal edges provided with laterally-extending shoulders, substantially as and for the purpose specified.

6. A file comprising a frame for receiving cards or other articles having engaging shoulders, said frame being provided with a guide, and a locking-bar movable in the guide and provided with separated engaging shoulders arranged one in advance of the other for engaging the former shoulders, substantially as and for the purpose specified.

7. A file comprising a frame for receiving cards or other articles having engaging shoulders, said frame being provided with a guide, and a locking-bar having one longitudinal edge movable in the guide and its opposite edge provided with angularly-arranged shoulders for engaging the former shoulders, substantially as and for the purpose set forth.

8. A file comprising a frame for receiving cards or other articles having engaging shoulders, a movable locking-bar provided with separated engaging shoulders arranged one in advance of the other for engaging the former shoulders, and a pivoted operating member for moving the locking-bar longitudinally, substantially as and for the purpose specified.

9. A file comprising a frame for receiving cards or other articles having engaging shoulders, a movable locking-bar provided with separated engaging shoulders arranged one in advance of the other for engaging the former shoulders, and a slide for moving the locking-bar longitudinally, substantially as and for the purpose described.

10. A file comprising a frame for receiving cards or other articles having engaging shoulders, a movable locking-bar provided with separated engaging shoulders arranged one in advance of the other for engaging the former shoulders, a slide for moving the locking-bar longitudinally, a spring for forcing the slide into its normal position, and means secured to the slide for moving the locking-bar longitudinally independently of the slide, substantially as and for the purpose specified.

11. A file comprising a frame for receiving cards or other articles having engaging shoulders, a movable locking-bar provided with separated engaging shoulders arranged one in advance of the other for engaging the former shoulders, said locking-bar being also provided with a projecting arm having a slot arranged at substantially right angles with the lengthwise plane of the locking-bar, and a movable operating member having a shoulder guided in the slot for moving the locking-bar longitudinally, substantially as and for the purpose set forth.

12. A file comprising a frame for receiving cards or other articles having engaging shoulders, and a pair of locking-bars each provided with separated engaging shoulders arranged one in advance of the other for engaging the former shoulders, one of the locking-bars being movable longitudinally, substantially as described.

13. A file comprising a frame for receiving cards or other articles having engaging shoulders, a pair of locking-bars each provided with separated engaging shoulders arranged one

in advance of the other for engaging the former shoulders, and means for moving the locking-bars longitudinally in opposite directions, substantially as and for the purpose set forth.

14. A file comprising a frame for receiving cards or other articles having engaging shoulders, a pair of locking-bars each provided with separated engaging shoulders arranged one in advance of the other for engaging the former shoulders, and means for moving the locking-bars longitudinally in opposite directions and for also moving said bars longitudinally in the same direction, substantially as and for the purpose described.

15. A file comprising a frame for receiving cards or other articles having engaging shoulders, a pair of locking-bars each provided with separated engaging shoulders arranged one in advance of the other for engaging the former shoulders, and a pivoted operating member connected to the locking-bars for moving the same in opposite directions, substantially as and for the purpose set forth.

16. A file comprising a frame for receiving cards or other articles having engaging shoulders, a pair of locking-bars each provided with separated engaging shoulders arranged one in advance of the other for engaging the former shoulders, a slide for moving the locking-bars longitudinally in the same direction, and means secured to the slide for moving the locking-bars longitudinally in opposite directions independently of the slide, substantially as and for the purpose described.

17. A file comprising a frame for receiving cards or other articles having engaging shoulders, a movable locking-bar composed of a longitudinally-folded strip having its longitudinal edges provided with laterally-extending shoulders, and a second locking-bar arranged between the longitudinally-folded parts of the first locking-bar, substantially as and for the purpose specified.

18. A file comprising a frame for receiving cards or other articles having engaging shoulders, a movable locking-bar composed of a longitudinally-folded strip having its longitudinal edges provided with laterally-extending shoulders, and a second locking-bar composed of a longitudinally-folded strip having its folded parts movable between the longitudinally-folded parts of the first locking-bar and its longitudinal edges provided with laterally-extending shoulders lapping with the shoulders of said first locking-bar, substantially as described.

In testimony whereof I have hereunto signed my name, in the presence of two attesting witnesses, at Rochester, in the county of Monroe, in the State of New York, this 14th day of February, 1898.

LUTHER C. McNEAL.

Witnesses:
F. T. SAGE,
R. C. WATSON.