(No Model.) 2 Sheets—Sheet 1.

J. A. LANGSTROTH.

MECHANICAL LEDGER.

No. 453,306. Patented June 2, 1891.

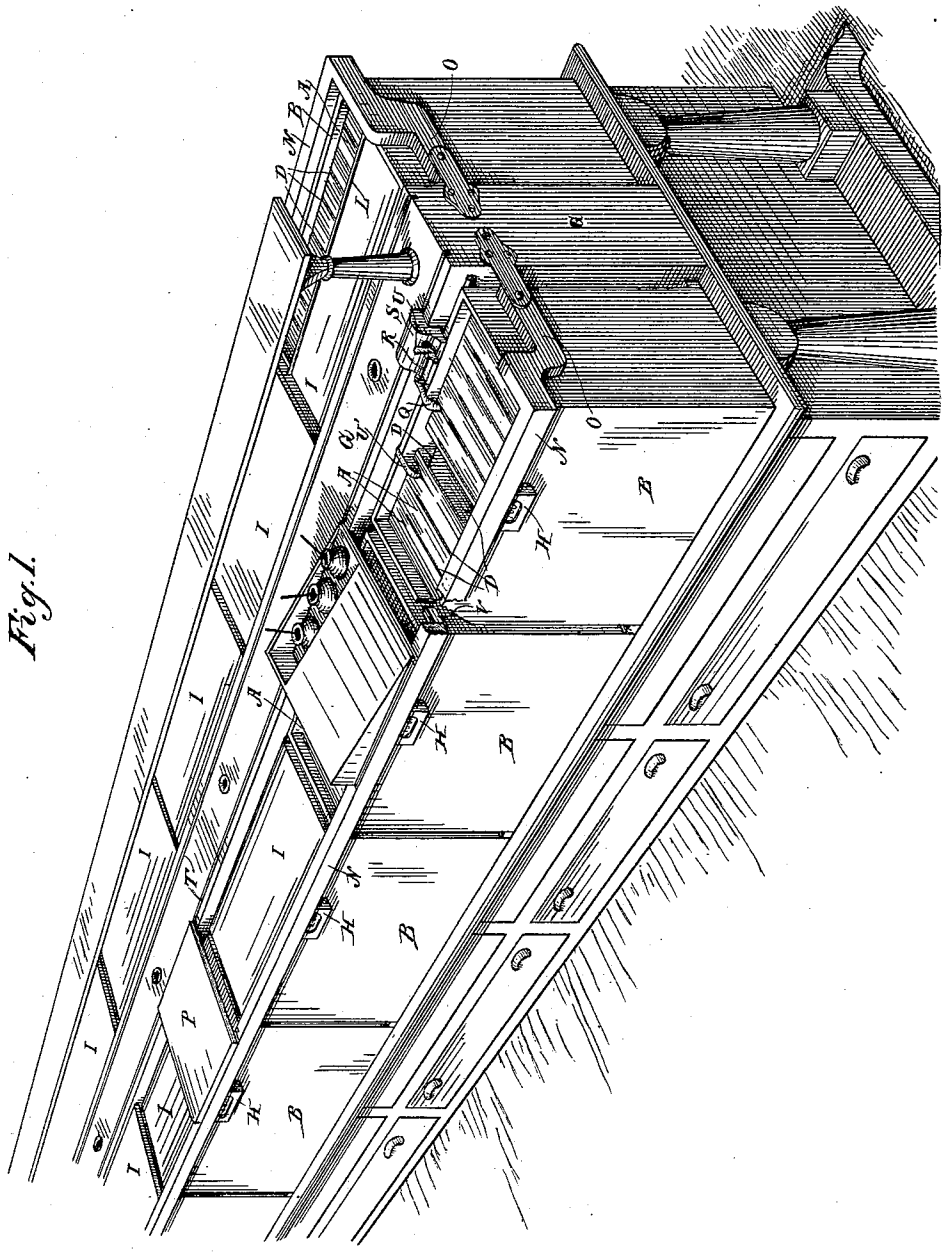


Fig. 1.

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Geo. H. Strong.
J. P. Morse

Inventor,
John A. Langstroth.
By Dewey & Co.
Attys

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

(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

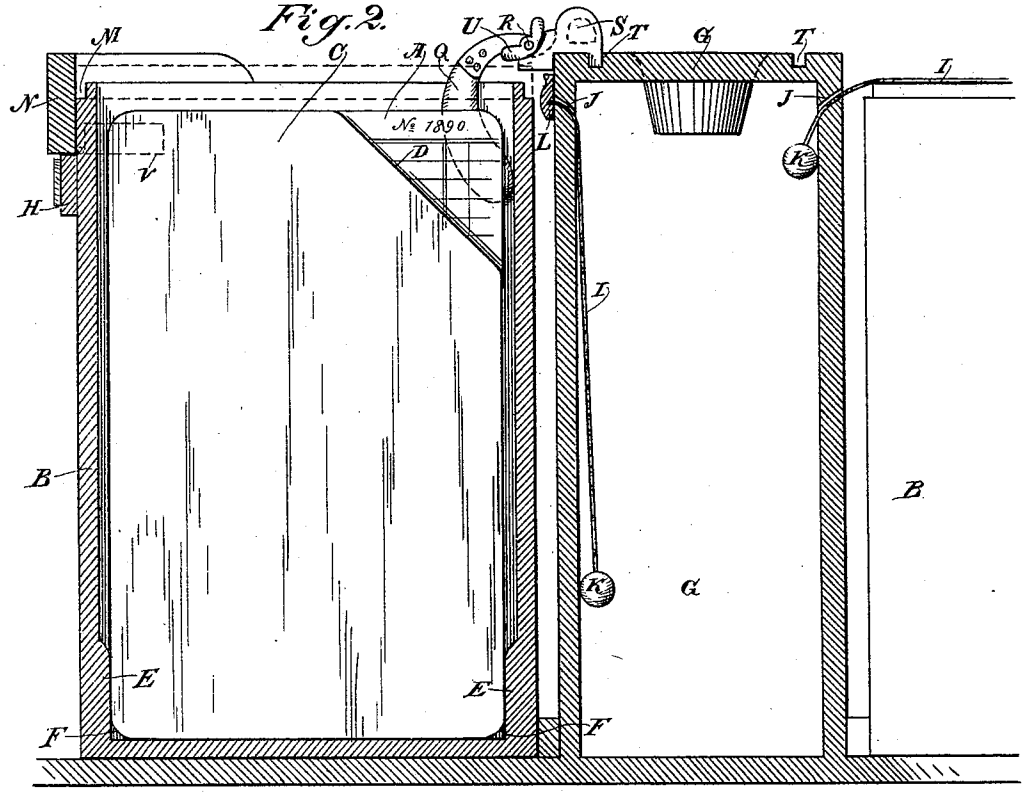


Fig. 3.

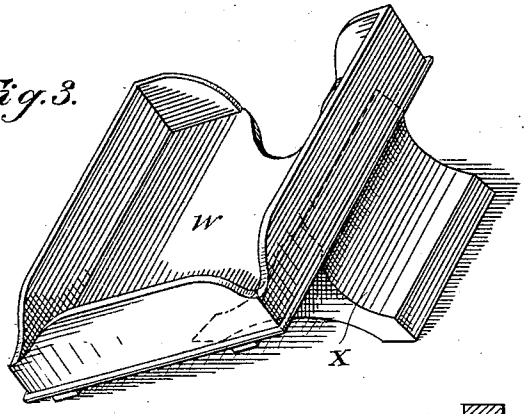


Fig. 4.

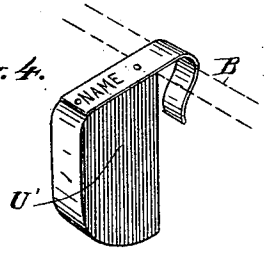
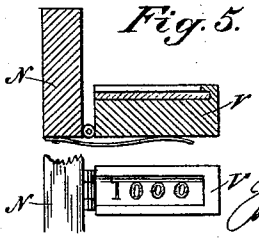


Fig. 5.



Witnesses,
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[illegible]

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

UNITED STATES PATENT OFFICE.

JOHN A. LANGSTROTH, OF SAN FRANCISCO, CALIFORNIA.

MECHANICAL LEDGER.

SPECIFICATION forming part of Letters Patent No. 453,306, dated June 2, 1891.

Application filed March 11, 1890. Serial No. 343,521. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. LANGSTROTH, a citizen of the United States, residing in the city and county of San Francisco, State of California, have invented an Improvement in Mechanical Ledgers; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to a means for conveniently keeping accounts, such as are found in the books of savings-banks, or in other institutions where there is a large number of continually-changing accounts.

It consists of independent sheets for each account and a series of properly-numbered cases, within which said sheets are contained, with certain appliances for holding the sheets in place, protecting them from injury, and for indicating the place of any sheet which may be removed, together with the name of the person who has taken it, and in certain other details of construction, all of which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a general perspective view showing the arrangement of my apparatus. Fig. 2 is a transverse vertical section taken through one of the cases and a central desk or casing. Fig. 3 is a perspective view of one of the trays W and the support therefor. Fig. 4 is an enlarged view of the indicator-plate, which is used to separate the sheets when posting, also the name-plate, which is used when the sheets have been removed. Fig. 5 represents views in section and elevation of one of the letter-plates V and the bar N, to which it is hinged.

In institutions like savings-banks, where many deposits are made, there is a large number of individual accounts, and these accounts are continually changing as deposits are withdrawn and the names go out of the books, while new accounts are being continually opened. This necessitates the employment of a large number of ledgers in which to keep these accounts, and after a certain time when a large proportion of accounts in any ledger has become closed it involves a great deal of trouble to handle the great number of closed accounts, and finally the transferring of the remaining open accounts into new ledgers, where the same difficulty again occurs in a short time.

In my invention I employ single sheets of paper A, properly ruled for the reception of the account, and each account is kept upon a separate sheet, having the name or number, or both, placed at the head of the sheet at a point where it is conveniently seen. These sheets of paper are then placed in boxes B, which are made of sufficient width and depth to receive the sheets conveniently, and each box may be made of a size to contain any desired number of accounts. It is preferable to employ paper of somewhat greater weight and stiffness than ordinary ledger-paper, but when a great number of sheets of paper are placed on edge or on end together in the box there is a tendency to double up and fall down, the sheets not keeping their perpendicular position. In order to prevent this, I introduce between the sheets at certain intervals a series of inflexible movable partitions or division-plates C. These may be placed between each one hundred, two hundred, or three hundred or more sheets, as may be found desirable or necessary, or they may be employed to indicate each hundred or thousand or any fraction of thousand sheets, if desired, and a box may contain as many as one thousand or more of these sheets or accounts. These movable inflexible partitions serve the double purpose of separating the accounts into hundreds or thousands, and they also serve to prevent the flexible sheets from doubling up and folding down into the box and getting out of shape. The name upon each sheet will be preferably written at the top, with the number, upon one corner—as the upper right-hand corner—and these inflexible partitions C are cut or beveled away, as shown at D, so that it is easy to run over the accounts until the number or name desired is found, these beveled angles allowing the sheets to be bent over sufficiently to expose the name or number. It is necessary in introducing the sheets into the boxes to insure their being held in a central position, so that in moving them backward or forward to find an account their edges will not rub against the sides of the box, and for this purpose the box, being made a little wider than the width of the sheet, will have strips E fixed along the bottom to act as guides for the sheets when they are introduced. These strips extend the whole length

of the box upon each side, and the lower corners of the sheets are beveled, as shown at F, so as to prevent the corners from being bent or turned up by the continual striking against these guide-strips. The guides are properly rounded or beveled on their upper edges, so that when the sheets are introduced they will be guided so as to stand in the center of the box, leaving a little free space upon each edge, which will prevent the upper edges of the sheets from rubbing as they are moved in inspecting and replacing. The boxes may be placed either in a horizontal or inclined position, or they may stand vertically.

In the present illustration of my invention I have shown the boxes as arranged in series upon a table or stand, so as to be at a convenient height for use, and a central extension or casing G between the two sets or series of boxes which are arranged upon each side of the desk. Upon the front of each box is a projection or plate H, upon which is fixed a number indicating the numbers of the sheets within the box, or the commencing-number of these sheets, or the letters, if the accounts are alphabetically arranged.

In order to cover the boxes and protect the sheets from dust and dirt, I have shown flexible covers I, which are so arranged as to move through slots J in the central casing. These flexible sheets have a weight, as shown at K, upon the edge within the casing, this weight being sufficient to draw the covers back when they are released. The covers, when drawn forward over the boxes, are secured in place by means of catches L, fixed to the front edges of the cover, so as to engage with grooves or notches M. When the catches are released from the edges of the boxes, the weights will draw the covers back and into the casing behind the boxes.

In order to protect the edges of the boxes, and also to provide a support for a desk or table P, to be used in posting, I have shown the bars N, extending along the front edges of the boxes and projecting slightly above them, so that their upper edges will be parallel with the corresponding edge of the central casing, and these bars are hinged by means of the arms O at each end of the central casing, as shown, so that they may be easily turned up at any time to allow the boxes to be removed. When they are turned down, they extend along the front edges of the boxes, resting upon the plates H, and prevent the covers from being detached by accident, and also serve, as before described, as a support upon which the desk P may rest, this desk being moved along from one box to another, as desired, while posting.

When the different sheets are removed from the boxes for the purpose of posting, it is desirable to have some means for indicating the place from which the sheet has been removed, and for this purpose I have shown an arm or finger Q, mounted upon the end of a shaft R, which is journaled upon a block or support S. This block or support has a tongue along its lower surface, so as to fit a corresponding groove T upon the edge of the central box or casing, and it is weighted by a filling of lead or other heavy material, so as to prevent its tipping over easily.

Upon the shaft which carries the arm or finger Q is a projecting arm or lever U, by which the arm or finger may be raised at any time. The object of this finger is well shown in the illustration, where it drops between the sheets, and this indicates the place from which any sheet may have been removed temporarily while posting, so that it may be returned to its proper position after the work is done.

In some cases it is necessary for clerks to remove a sheet temporarily and take it to a distant desk, in which case name-plates U are employed. These plates have the names of the clerks upon them, each clerk being provided with one or more of them. When the sheet is removed, he introduces this name-plate in the position from which the sheet has been removed. The plate has an elastic spring-arm which clasps the rear edge of the box and holds it in place while the sheet is absent. I have also shown number or letter plates V, which are hinged to the rails or bars N, and which ordinarily stand horizontally, so that the number can be easily read.

If it is advisable to change the number or letter to correspond with changes in the numbers or letters of the sheets within the box, this is done by turning the number-plate about its hinge so that it stands vertically, when the number may be slipped out of the grooves in which it is held and another number inserted. In these grooves is also a glass cover to protect the number from dust, ink, &c.

Upon the top of the central casing, near which the boxes are arranged, may be fixed ink-wells and other conveniences, so that the work may be carried on without removing the boxes from their position. When these sheets are taken out in any number for any purpose connected with the business, I employ a tray (shown at W) having the angles or corners and a portion of the bottom at one end cut away, as shown, so that sheets which have been laid into the tray can be easily taken up in a body. The tray or box is preferably set upon a triangular support X, so that as the sheets which may be placed in a beveled pile beside the tray are, after being operated on, turned one by one into the tray, they will slide by gravitation down to one side or corner, and will thus all be properly and evenly arranged without unnecessary handling, so that when removed from the tray they are in proper condition to be replaced in the boxes. Wooden covers are provided for the boxes, so that after business hours they may be covered, removed from the stands, and piled one upon another in the vault for security.

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

1. A series of flexible sheets, a box within which said sheets are contained, and a flexible cover adapted to slide over said box, said cover having the rear edge weighted so as to withdraw the cover when released, substantially as herein described.

2. A series of flexible sheets or leaves, a containing-box within which said sheets are adapted to stand upon edge, and a flexible cover moving over a guide at the rear of the box having its rear edge weighted and its front edge provided with a catch to engage with a depression or device upon the front of the box, whereby the cover is held in place, substantially as herein described.

3. A series of flexible sheets, a box within which said sheets are adapted to stand upon edge, a weighted flexible cover with a catch, and a hinged protecting-rail extending along the front of the box, so as to protect the catch, substantially as herein described.

4. A series of independent flexible sheets, and a series of numbered or lettered boxes within which said sheets are adapted to stand upon edge, and a casing or frame situated behind the series of boxes and having the guide-rail upon which one edge of a desk or table may be supported, in combination with the rail extending along the front of the boxes to support the opposite edge of the desk, said rail being hinged at the ends to the central frame or casing, substantially as herein described.

5. A series of independent sheets, boxes within which said sheets are adapted to stand on edge, and a frame or casing behind said boxes having a groove adjacent to the rear edges of the boxes, in combination with a sliding block fitted to said groove having a shaft journaled upon it, and an arm or finger projecting from said shaft so as to drop into the spaces between the leaves or sheets within the boxes, substantially as herein described.

6. A series of independent sheets, boxes within which said sheets are adapted to stand upon edge, and a separating-plate having a name or number upon it, and a spring-clasp adapted to secure it upon the edge of the box, so that the lower edge of the plate may be inserted between the independent sheets to indicate the point from which one of said sheets has been removed, substantially as herein described.

7. The containing-boxes having the strips along each side at the bottom, whereby the lower portion of the box is made narrower than the upper portion, flexible sheets adapted to stand on end within said boxes, said sheets being made narrower than the interior width of the boxes and having the lower ends beveled to correspond with the strips, substantially as herein described.

In witness whereof I have hereunto set my hand.

JOHN A. LANGSTROTH.

Witnesses:
CHARLES L. DAVIS,
A. M. WHITTLE.