No. 617,066. Patented Jan. 3, 1899.

W. J. WATTERS & F. A. GOULD.

TEMPORARY BINDER.

(No Model.) (Application filed June 6, 1898.)

Fig. 1.

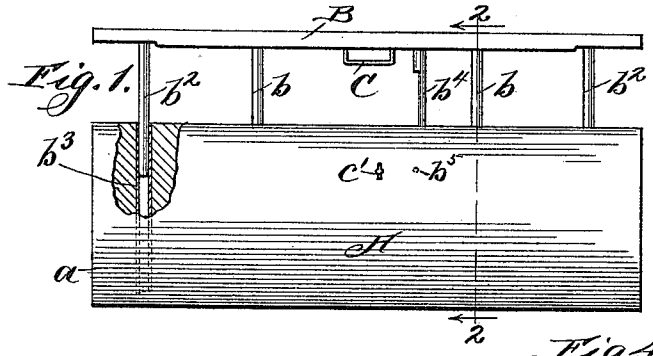


Fig. 5.

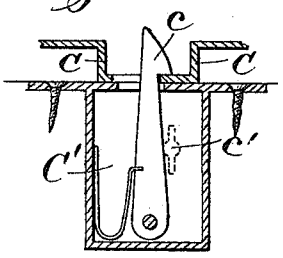


Fig. 2.

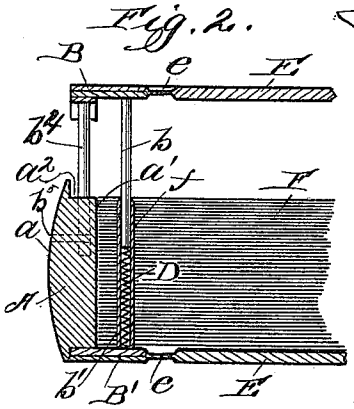


Fig. 4.

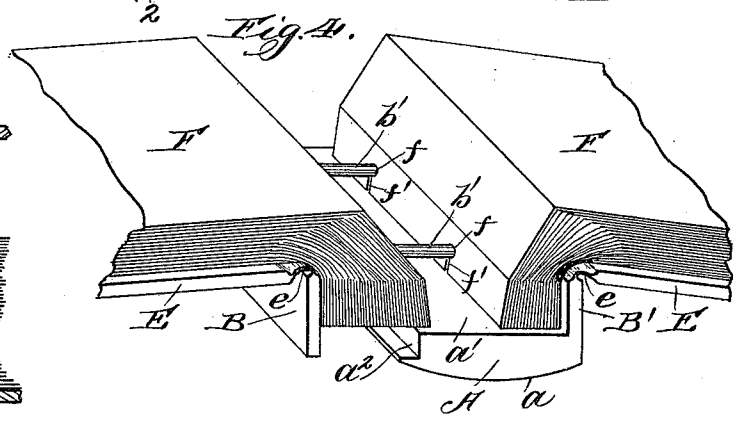


Fig. 6.

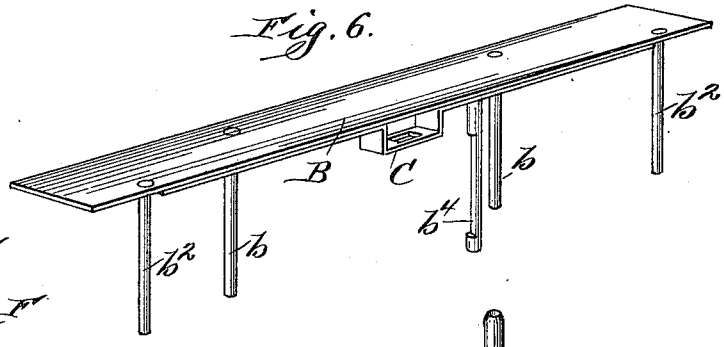


Fig. 3.

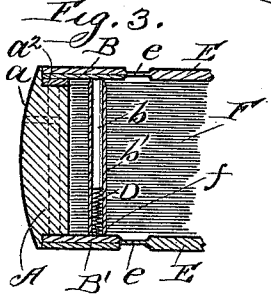
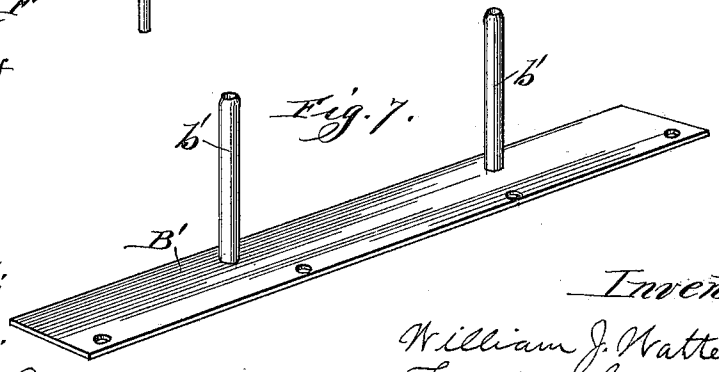


Fig. 7.



Witnesses:
R. J. Jacker.
Annie M. Adams.

Inventors:
William J. Watters
Frank A. Gould
By Jno. A. Whipple
Atty

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

UNITED STATES PATENT OFFICE.

WILLIAM J. WATTERS AND FRANK A. GOULD, OF CHICAGO, ILLINOIS.

TEMPORARY BINDER.

SPECIFICATION forming part of Letters Patent No. 617,066, dated January 3, 1899.

Application filed June 6, 1898. Serial No. 682,770. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM J. WATTERS and FRANK A. GOULD, of Chicago, in the State of Illinois, have invented certain new and useful Improvements in Temporary Binders, of which the following is a specification.

This invention relates to improvements in temporary binders of the class known to the trade as "perpetual ledgers" or flat-opening account-books, in which the leaves are placed and may be singly removed and replaced with others at will. Such binders have heretofore been composed of side or binding pieces movable toward and from one another, with rods on one passing through holes in the other, the leaves being provided with perforations adapted to pass over the ends of the rods and separate transfer-wires being used when removing and replacing leaves. Also the side pieces have been provided with telescoping triangular posts at their ends adapted to fit corresponding notches in the opposite ends of the leaves, and telescoping boxes adapted to receive stubs of the leaves at their opposite ends, as distinguished from the triangular posts with notched leaves, have been employed for the same purpose. Further, telescoping rods oblong in cross-section and revoluble have been used in connection with leaves having perforations with a narrowed open cut at the rear, the rods being disposed in the perforations with their greater diameter transverse to the narrowed open cut for holding the leaves in and being turned a quarter round to bring the greater diameter in line with said open cut for removing or replacing leaves when the side pressure thereon is relieved. Also extensible or telescoping sheet-binding posts have been used in such binders, with open apertures in the rear of the sheets, in conjunction with removable sheet-binding posts extended through closed apertures in the rear of the sheets. By this arrangement when the posts in the closed apertures are withdrawn a sheet may be inserted in place or withdrawn from the binder by slipping the open apertures of the sheet off their post, the post passing through the opening of the apertures; but when a post is in place in the closed aperture of a sheet the sheet cannot be withdrawn, nor can another sheet be inserted in the binder, it being an always essential feature that the posts in the closed apertures of the sheets must be capable of being withdrawn from said apertures to permit a sheet to be withdrawn from or inserted in the binder. Locks have also been used in binders of this class, securing the side pieces in closed position, with stops to limit the separation of the side pieces, and guides have been used in connection with the ends of the movable parts and in line with the sheet-binding posts.

Therefore this invention does not cover, broadly, any prior combination or arrangement of features substantially such as above enumerated; but the objects thereof are, first, to provide in this class of binders a rolling or rounded back piece having a plain straight interior surface for the abutment of the rear edges of the leaves, a side piece fixed to one edge of the back piece and a side piece movable with relation thereto for clamping the volume of leaves to the back piece or releasing it therefrom, telescoping leaf-binding pins rigidly connected with the side pieces and arranged in close parallel relation with the plain inner surface of the back piece, the leaf-binding pins in perforations with a narrow open cut at the rear and the clamping of the side pieces coöperating and being sufficient to hold the leaves in the binder, and other pins rigidly connected with the rear margin of the movable side piece and telescoping with tubular guides in the back piece for maintaining the leaf-binding pins, when extended in parallel relation with the inner surface of the back piece, so that the volume of leaves can freely slide on the leaf-binding pins and a part of them be moved off the back piece without displacing the parallel relation of said leaf-binding pins with the back piece. The guides and pins in connection with the back piece and with rear margin of the movable side piece also coöperate with the telescoping leaf-binding pins in maintaining the parallel relation of the movable side piece with the back piece and opposite side piece against the resistance of the cover in connection with the other edge of said movable side piece, so that said side piece is rendered more readily moved from or toward the back piece and can be worked by springs in connection with the leaf-binding pins or the

other pins and tubular guides operating automatically to open the back piece when unlocked, and, secondly, to provide suitable springs adapted to normally press the movable side from the back piece in parallel relation therewith, so that the guides and stop connection cannot bind either in the opening or the closing of the said side piece with the back piece and to automatically open the movable side piece when unlocked.

It is also a further object to provide such form and adaptation of the several parts as to simplify and improve the construction of the binder and to give to it more of the general appearance of an ordinary ledger account-book.

These objects are obtained in the construction illustrated in the accompanying drawings, in which—

Figure 1 is a rear view showing the movable piece open. Fig. 2 is a fragmentary section on the line 2 2 of Fig. 1. Fig. 3 is a like section to Fig. 2, but shows the movable side piece closed. Fig. 4 is a perspective view showing the binder open for the removal and replacement of a leaf. Fig. 5 is a detail showing a sectional view of a mortise-lock set in the back piece for engagement with the movable side piece. Fig. 6 is a detail showing a perspective view of a plate for the movable side piece. Fig. 7 is a detail showing a like view to Fig. 6 of the opposite side pieces.

In the drawings, A designates the back piece, which is preferably made of well-seasoned wood. The back surface a is rounded like an ordinary book-back and the inner surface a' is plain, smooth, and straight. The edges are preferably provided with a plain right-angular rabbet a^2 of a depth corresponding to the thickness of the side pieces in order that the rear part of the back piece may cover the rear edge of the side pieces and make a good finish at the open joint between the back piece and the movabie side piece.

B B′ are metallic plates for the side pieces. The plate B is provided with pins b, having one end passed through a hole in the plate and securely riveted thereto, so as to make the pins permanent fixtures to the plate. These pins are adapted to telescope with bevel-pointed tubes b', similarly secured to the plate B′. The plate B also has the guide rods or pins b^2, likewise attached and adapted to enter holes or tubes b^3, set in holes forming ways in the back piece, and a stop-rod b^4, which also enters a hole in the back piece traversed by a pin b^5, adapted to work along the reduced part of said stop-rod and operate as a stop on the enlarged end thereof. The stop-rod is adapted to permit a free movement of the movable side piece within the full limit of its movement. A projecting latch-plate C, secured to the plate B, enters a recess in the edge of the back piece and engages the spring-latch c of a mortise-lock set in the edge of the back piece opposite to the latch-plate. The lock is reached by a key entering through a keyhole c' in the back piece. The plate B′ is provided with screw-holes along its rear margin, by means of which it may be secured to the edge of the back piece A, so as to support the tubes b' close to the plain surface a' of the back piece and in fixed parallel relation therewith, the length of said tubes corresponding to the width of said surface.

The ends of the tube b' which are passed through the plate B′ are plugged or closed, and a coiled-wire spring D is placed within each of said tubes and adapted to be compressed by the pins b when the movable side piece is pressed or closed upon the back piece. The springs operate automatically to throw the movable side piece off from the back piece when the hold of the lock is released.

The back piece and plates of the side pieces are covered with leather or other suitable flexible covering, which is extended over the binder-covers E E and forms hinge connections e between the side pieces and covers.

The lock C′ is set in the back piece in line with the guide-pins b^2 and holds the side piece B at a point near its rear edge. The weight of the cover E is on the opposite edge, and the pressure of the springs is applied between the line of the guide-pins and the opposite edge of the side piece. The springs thus disposed with relation to the other parts constitute a very efficient means for the automatic opening of the binder when unlocked.

The leaves F are provided with perforations f at their rear margin and a narrower open cut, as shown at f', so that they can be turned aside and opened enough to be passed over the tubes when parted, as shown in Fig. 4, at any point where a leaf to be removed is located.

The whole volume of leaves will slide readily and easily on the tubes, and when the binder is thus opened and the leaves parted a portion of the leaves will pass off the tubes onto the pins b, and the points of the tubes are beveled or tapered, so that they will readily and easily enter the perforations when the leaves are being passed back to their former position on the tubes.

When the binder lies open on its back, as shown in Fig. 4, a sufficient separation of the leaves in order to make one near the middle or beyond it from the movable side accessible for removal from pins having a uniform diameter and located away from the ends of the back piece requires that the portion of the leaves adjacent to the movable side be moved off the plain surface of the back piece, and it is essential that the telescoping pins which support the leaves thus moved off the back piece have rigid connection with the side piece and fixed parallel relation with the back piece in order to prevent the rear edges of such leaves from falling below or out of line with said surface. Otherwise it would be difficult to put them back in proper place. The rigid connections of telescoping parts $b\,b'$ with

the plates and the like connection of the guides b^2 with their plate, whereby these parts are maintained perpendicular to the plate, the telescoping parts and the guides severally having lateral support from such rigid connections and working in different lines or planes of action, coöperate to support the leaves thus moved off the back piece and are necessary to prevent looseness and to produce an efficient device of the class mentioned in which non-revoluble pins or tubes placed away from the ends and toward the center of the back piece are employed for holding the leaves in and must be made accessible by opening the binder and separating the volume of leaves sufficiently to reach and open the rear cuts in the leaves to connect or disconnect them from the pins.

We claim—

1. In a binder of the class mentioned, the combination with a back piece having a plain straight inner surface, of a side piece fixed to one of its edges, a side piece movable with relation to its opposite edge, telescoping leaf-binding pins secured rigidly to the side pieces and arranged in parallel relation with the inner surface of the back piece, guide-rods secured rigidly to the rear margin of the movable side piece and working in ways in the back piece so as to permit the movable side piece to be worked freely to and from the edge of the back piece, and a stop-rod connected with the movable side piece and engaging a stop on the back piece the stop-rod and stop working free within the full limit of movement of the movable side piece substantially as specified.

2. In a binder of the class mentioned, the combination with a back piece having a plain straight inner surface of a side piece fixed to one of its edges, a side piece movable with relation to its other edge, telescoping leaf-binding pins secured rigidly to the side pieces and arranged in parallel relation with the inner surface of the back piece, guide-rods secured rigidly to the rear margin of the movable side piece and working in ways in the back piece, a stop-rod connected to the movable side piece, engaging a stop on the back piece and working free within the limit of movement of the side piece, a spring-lock in the back piece adapted to automatically secure the movable side piece to the edge of the back piece when pressed in contact therewith, and springs adapted to automatically open the movable side piece when unlocked as specified.

WILLIAM J. WATTERS.
FRANK A. GOULD.

Witnesses:
ANNIE M. ADAMS,
ROBERT VAN SANDS.