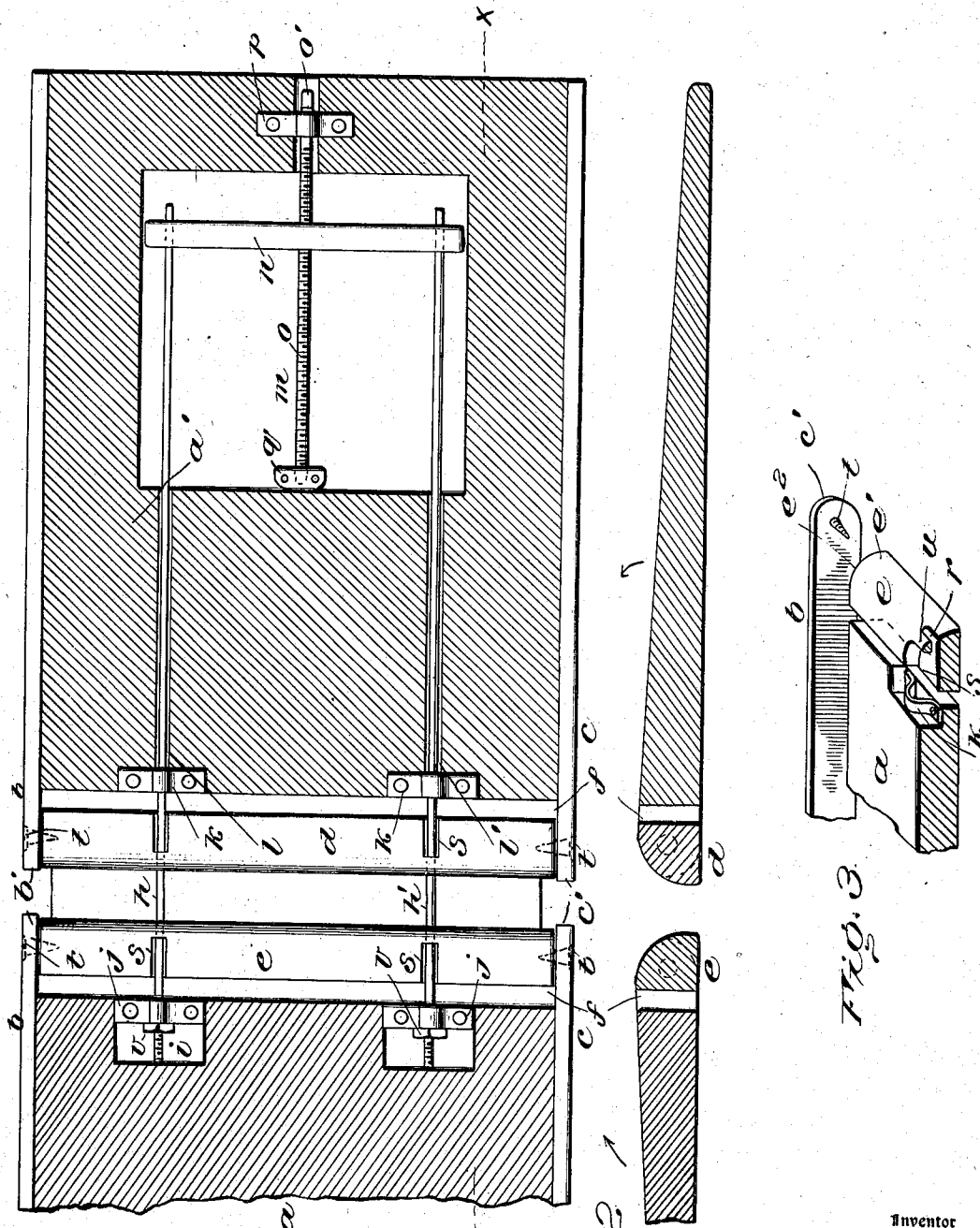


No. 867,107.

PATENTED SEPT. 24, 1907.

H. F. BUSHONG.
LOOSE LEAF LEDGER.
APPLICATION FILED JULY 15, 1904.



Witnesses

J. F. Tyler

FIG. 1

FIG. 2

H. F. Bushong

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Inventor

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UNITED STATES PATENT OFFICE.

HARRY F. BUSHONG, OF PORTLAND, OREGON, ASSIGNOR, BY MESNE ASSIGNMENTS, TO
KALAMAZOO LOOSE LEAF BINDER COMPANY, A CORPORATION.

LOOSE-LEAF LEDGER.

No. 867,107.

Specification of Letters Patent.

Patented Sept. 24, 1907.

Application filed July 15, 1904. Serial No. 216,663.

To all whom it may concern:

Be it known that I, HARRY F. BUSHONG, a citizen of the United States, and a resident of Portland, county of Multnomah, and State of Oregon, have invented a new and useful Improvement in Loose-Sheet Binders, of which the following is a specification.

The main object of this invention is to provide an improved temporary binder, by which the leaves or sheets are securely clamped at their inner or binding edges, and at the same time either or both covers or the leaves may be opened with the same facility as an ordinary bound book.

Further objects, and objects relating to structural details, will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification.

The invention is clearly defined and pointed out in the claims.

A structure embodying the features of my invention is clearly illustrated in the accompanying drawing, forming a part of this specification, in which,

Figure 1 is a detail inside plan of a structure embodying the features of my invention, the covers being shown in their extended or open position. Fig. 2 is a detail longitudinal section taken on a line corresponding to line X—X of Fig. 1, the binding cords and the back being omitted. Fig. 3 is a partial perspective of a detail of the construction shown in Fig. 1.

In the drawing, similar letters of reference refer to similar parts throughout the several views.

Referring to the drawing, the covers *a* are preferably provided with side strips *b* and *c*, which project inwardly at the inner ends of the covers to form hinge members *b'* and *c'*. The clamping jaws *d* and *e* are pivotally supported on these hinge members by the pivots *t*. The adjacent faces, or the clamping portions of the clamping jaws are made more or less flat, as at *e'* and their upper portions, as *e''* are made rounding so as to facilitate the bending of the leaves in either direction in opening the book.

The covers are united by means of the binding cords *h* and *h'*. The binding cords are secured to the cover sections *a*, such cover section being provided with cavities *i* in which are arranged clamp-like plates *j* under which the ends of the binding cords project. The binding cords are preferably made of leather with nuts *v* threaded thereon for securing them.

The cover *a'* is provided with a chamber or cavity *m*, in which the cross bar *n* is arranged. The ends of the binding cords are secured to this cross bar. The

bar is adjusted by means of the threaded shaft *o*, the shaft being provided with a square key end *o'*. The right end of the threaded shaft or rod *o* is held in place by a guide plate *p*, and the left end is arranged in the socket bearing *q*. The outer end of the section *a'* is provided with a suitable cavity, suitable to allow a key to be placed on the end *o'* of the rod by means of which it is manipulated to adjust the binding cords. The cover *a* is also provided with longitudinal grooves *l* *l'*, extending from the chamber *m* to the inner edge of the cover, these grooves being adapted to receive the binding cords, as is illustrated. At the inner edge of the covers *a'* are guide plates *k* for the binding cords. The binding cords are arranged through clamping bars or jaws, each clamping jaw being provided with holes *r* and cavities *s* therefor. These cavities are of such size as to allow the clamping bars to rock independently of the binding cords.

A sufficient space, as *f*, is left between the back of the clamping jaws and the inner edge of the main part of the cover so as to allow an independent movement of the clamping jaws and covers. By this arrangement, the sheets are securely clamped and at the same time the book may be readily opened at any place and the sheets lie flat or comparatively so.

When it is desired to insert or remove any of the leaves, it is only necessary to release the binding cords by means of the screw *o* when the leaves may be freely removed, or new ones inserted. It is evident that, after the leaves are adjusted, the binding cords can be quickly tightened.

Among the advantages characteristic of my invention may be mentioned: The means provided by me for binding the leaves between the outer covers do not take up any room at the back of the book, nor cause there any hub or ridge lifting the outer covers to any considerable incline, instead of allowing the same to lie substantially flat when the book is opened. The clamping jaws *e*, *d*, automatically adjust themselves to every possible position and arrangement of the covers and the leaves. During the motions of the cover bodies, the clamping jaws and the binding cords, incidental to the opening and closing of my book, the integral portions *u*, of the upper wall portions of the jaws *d*, *e*, hold the binding cords in place. My binding means are further adapted to allow the covers to be adjusted to any number of the leaves, that is to say, there is no maximum or minimum limitation of the leaves which may be inserted between the covers of my book; but a single sheet may be inserted to begin with, and any desired number of sheets added from time to time. My binding means are further adapted to allow the

leaves of the book to be arranged substantially flat at whatever place the book may be opened and whatever the number of sheets bound between the covers.

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

1. In a temporary binder, the combination of the covers having inwardly projecting hinge members at their inner ends; clamping jaws pivoted to said hinge members in such position that the covers and said clamping jaws may move independently on the pivots while opening and closing the book, the upper portions of the said jaws being made rounding; binding cords uniting said cover sections; means for adjusting said binding cords; the body of the covers being made with suitable cavities to contain the binding cords and the mechanism for adjusting the same, the clamping jaws also being provided with suitable cavities to receive said binding cords.
2. In a temporary binder, the combination of the covers having inwardly projecting hinge members at their inner ends; clamping jaws pivoted to said hinge members in such position that the covers and said clamping jaws may move independently on the pivots while opening and closing the book, the upper portions of the said jaws being made rounding; binding cords uniting said cover sections; and means for adjusting said binding cords.
3. In a temporary binder, the combination with the covers having inwardly projecting hinge members thereon, of clamping jaws pivoted to said hinge members in such position that the body of the covers and the clamping jaws may move independently on the pivots while opening and closing the book, the upper inner portions of said jaws being made rounding; binding cords secured to one of said covers; and means for adjusting said binding cords carried by the other cover, said jaws being provided with cavities *s* therein and holes *r* therethrough opening into said cavities through which said binding cords are arranged.
4. In a temporary binder, the combination with the covers having inwardly projecting hinge members thereon, of clamping jaws pivoted to said hinge members in such position that the body of the covers and the clamping jaws may move independently on the pivots while opening and closing the book; binding cords secured to one of said covers; and means for adjusting said binding cords carried by the other cover, said jaws being provided with cavities *s* therein and holes *r* therethrough opening into said cavities through which said binding cords are arranged.
5. In a temporary binder, the combination with the covers having inwardly projecting hinge members thereon, of clamping jaws pivoted to said hinge members in such position that the body of the covers and the clamping jaws may move independently on the pivots while opening and closing the book, the upper inner portions of the said jaws being made rounding; binding cords secured to one of said covers; and means for adjusting said binding cords carried by the other cover.
6. In a temporary binder, the combination with the covers having inwardly projecting hinge members at their inner ends, of clamping jaws pivoted on said members in such position that the covers and said clamping jaws may move independently on the pivots when the book is opened or closed; and binding cords uniting said covers.
7. In a temporary binder, the combination with the covers having inwardly projecting hinge members at their inner ends, of clamping jaws pivoted on said hinge members in such position that said covers and clamping jaws may

move independently when the book is opened or closed, the upper inner portions of said jaws being made rounding for the purpose specified; and binding cords for adjustably uniting said covers.

8. In a temporary binder, the combination with the covers, of clamping bars pivotally secured thereto; binding cords secured to one of said covers, arranged through said clamping bars; a bar arranged transversely of the other cover, to which said binding cords are secured; means for adjusting said bar; and guide plates for said binding cords arranged at the inner end of the cover carrying said adjusting means.

9. In a temporary binder, the combination with the covers, of the clamping jaws; connections for said jaws to said covers arranged so that the covers and jaws may move independently when the book is opened or closed; and binding cords uniting said covers connected thereto independently of said clamping jaws.

10. In a temporary binder, the combination with the covers having inwardly-projecting rigid hinge members at their inner ends, of clamping jaws arranged to lie in substantially the same plane as the covers to which they are attached, pivoted on said hinge members, so that said covers or said clamping jaws may move on the pivots independently of the other in opening or closing the binder; and adjusting means for the binder.

11. In a temporary binder, the combination with the covers having inwardly-projecting rigid hinge members at their inner ends, of clamping jaws pivoted on said hinge members so that said covers or said clamping jaws may move independently of the other in opening or closing the binder; and adjusting means for the binder.

12. In a temporary binder, the combination with the covers, of inwardly-projecting rigid hinge members at their inner ends of said covers; bar-like clamping jaws; pivots for securing said clamping jaws to said hinge members arranged centrally of said jaws, said pivots being arranged so that the said covers or the said clamping jaws may move independently of each other in the opening or closing of the book; and adjusting means for the binder.

13. In a temporary binder, the combination with the covers, having inwardly-projecting rigid hinge members at the inner ends of said covers; bar-like clamping jaws pivoted on said hinge members, so that said covers or said clamping jaws may move independently of the other in opening or closing the binder; binding cords connected to said covers and arranged through said clamping bars, the pivotal connections for said clamping bars to said covers being so arranged that the tension on said binding cords is not materially varied by the opening or closing of the covers, or the movement of said clamping bars.

14. In a temporary binder, the combination with the covers, having inwardly-projecting rigid hinge members at the inner ends of said covers; bar-like clamping jaws pivoted on said hinge members; binding cords connected to said covers and arranged through said clamping bars, the pivotal connections for said clamping bars to said covers being so arranged that the tension on said binding cords is not materially varied by the opening or closing of the covers.

In witness whereof, I have hereunto affixed my signature in the presence of two witnesses.

HARRY F. BUSHONG.

Witnesses:

T. J. GEISLER,
NORA MCCLURE.