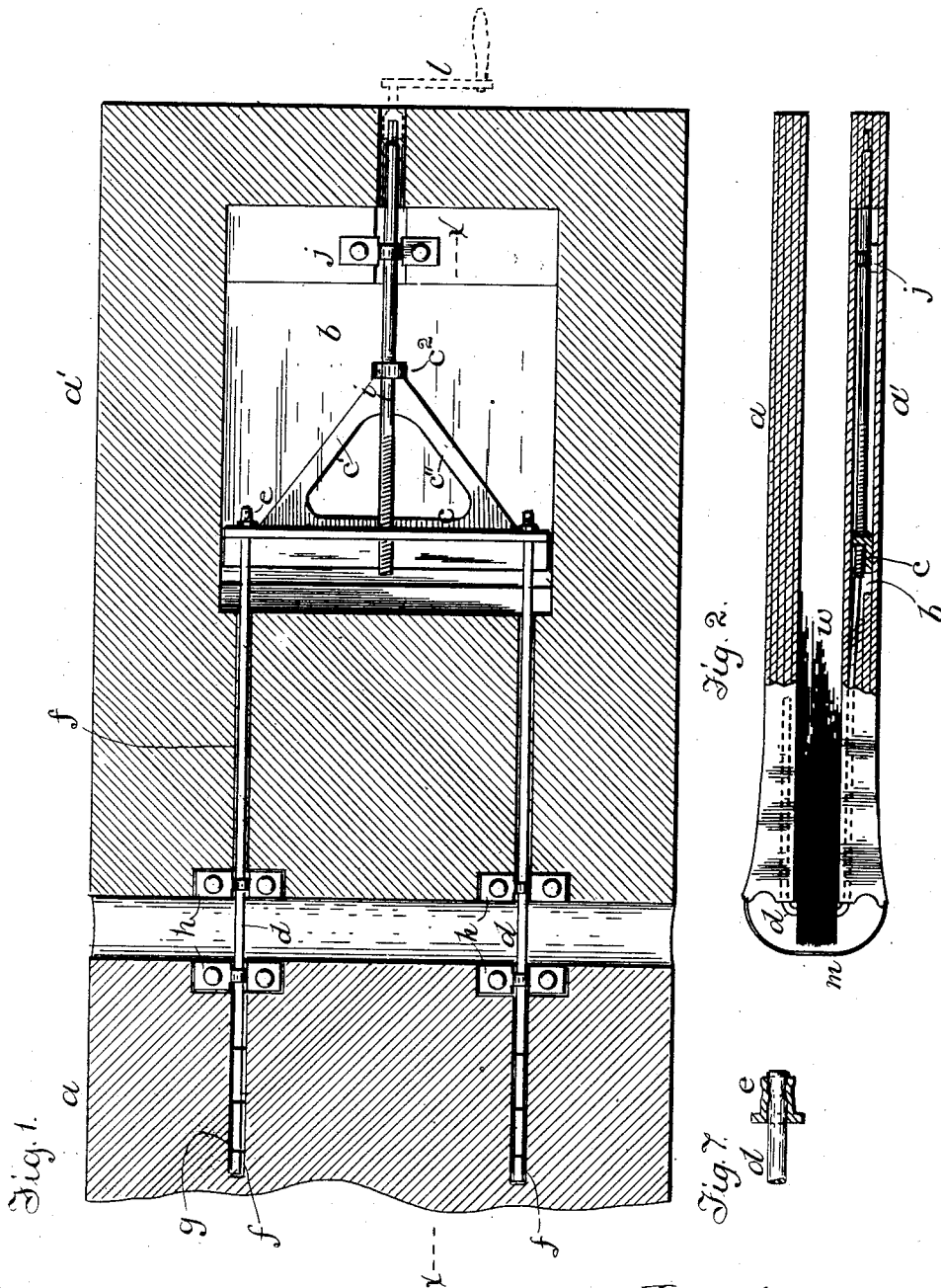


H. F. BUSHONG.
 LOOSE LEAF LEDGER.
 APPLICATION FILED MAR. 21, 1903.

941,757.

Patented Nov. 30, 1909.
 2 SHEETS—SHEET 1.



Witnesses:
 J. B. Anderson
 Mae Loeb

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 Harry F. Bushong
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 atty.

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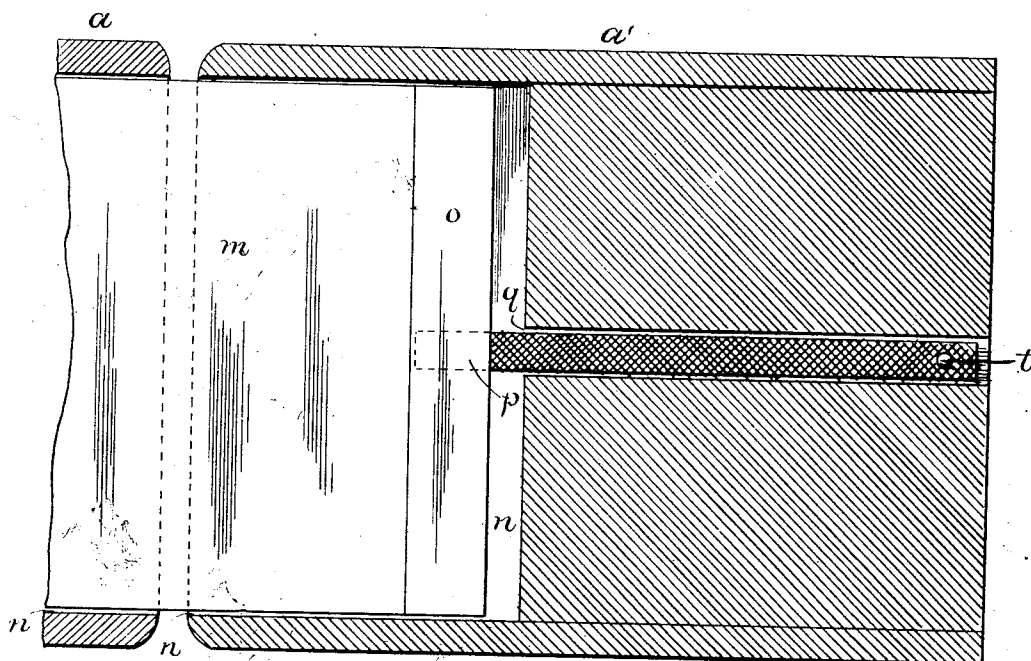


Fig. 3.

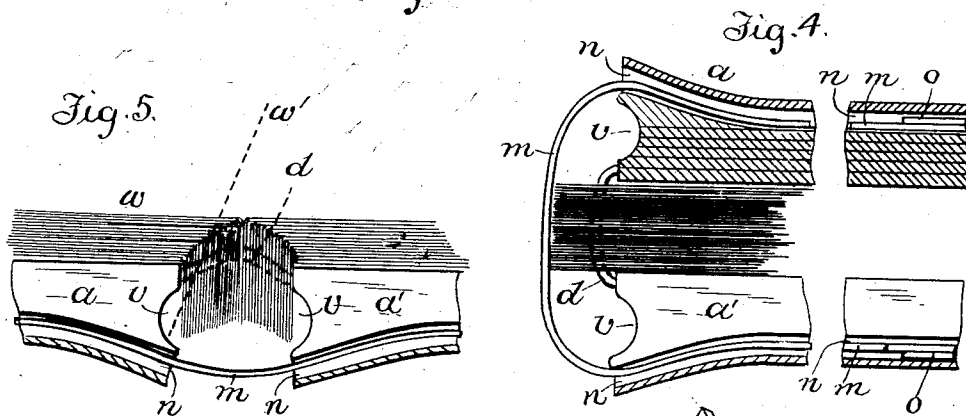


Fig. 5.

Fig. 4.

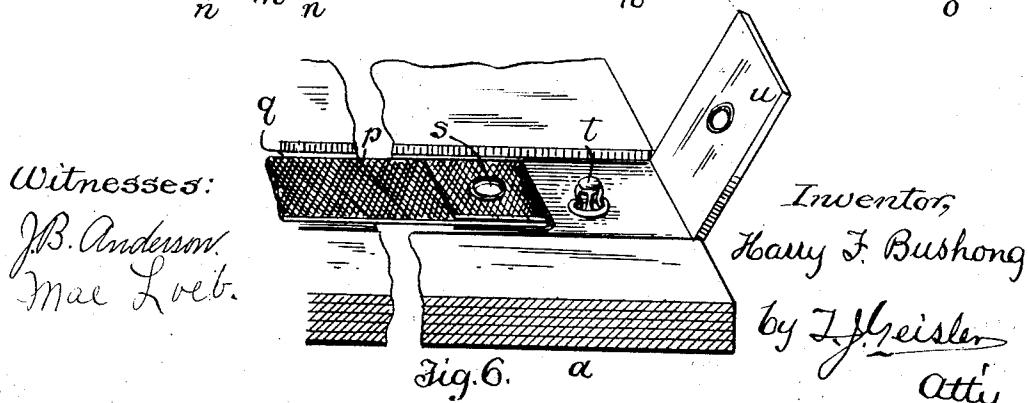


Fig. 6.

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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.

941,757.

Specification of Letters Patent. Patented Nov. 30, 1909.

Application filed March 21, 1903. Serial No. 148,994.

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, in the county of Multnomah and State of Oregon, have invented a new and useful Improvement in Loose-Leaf Ledgers, of which the following is a specification, reference being had to the accompanying drawings, as constituting a part thereof.

My invention relates to the binding device, and also to the covers of loose leaf account books; and it has for its object to eliminate certain inconvenient and objectionable features common to books of this kind.

The characteristic features of my invention are: The device for binding the sheets between the covers does 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 back strip, connecting the two covers automatically adjusts itself, that is, telescopes into the binding edges of the covers in concordance with the opening and closing of the book; and thus there is no formation of an interfering bulge or hub by such back strip, when the book is opened.

My binding device is of such construction that it may be adjusted to any number of leaves, and when adjusted will allow the free opening and closing of the book, and besides insures that the leaves of the book, when opened, will lie flat, whatever the number of sheets inserted between the covers. There is no minimum or maximum limitation on the number of sheets which may be inserted between the covers of my book; it may be but a single sheet to begin with, and any desired number of sheets afterward added, from time to time. Furthermore the thickness of my book is never any greater than that of the two covers plus the number of leaves inserted, since my binding device does not require any space at the back of the book. The sheets to be bound in my book do not require as wide a binding margin as usual.

The devices employed by me for accomplishing said objects are both simple in construction, and simple in their operation

and adjustment, as will be seen from the drawings.

Figure 1 of the drawings is a partial plan section of the two covers of my book, (the book being open) illustrating the construction and operation of the binding device. Fig. 2 shows my book closed, the covers being partly in section on a line *x, x*, of Fig. 1. Fig. 3 is a partial plan section of the two covers taken near their outer surface, and illustrates the construction and operation of the automatically adjustable back-strip, *m*. Fig. 4 is a partial front elevation, partly in longitudinal section of my book, when closed, and further illustrates the construction and operation of said automatically adjustable back strip. Fig. 5 is a front elevation, partly in section of the central or back portion of my book, illustrating the appearance of such portion when my book is opened. Fig. 6 is a detail illustrating the means employed for removably fastening the ends of the elastic bands, *t*, constraining the back strip, and Fig. 7 is a detail in section of the ends of the binding cords, *d*, secured to the adjustable angle bar, *c*.

The letters designate the parts referred to.

The two cover-sections, *a, a'*, of my book are made of several thicknesses of straw board. In the section, *a'*, is made a rectangular cavity, *b*, to contain the adjustable angle bar, *c*. Such angle bar has holes at its two ends in which are inserted the ends of the binding cords, *d*, preferably of leather; heads *e*, being clamped on such ends. The binding cords are contained in longitudinally extending cavities, *f*, provided in both sections of the cover; and the fixed ends of such binding cords are secured by staples, *g*, in the section, *a*. Guide plates, *h*, are secured at the binding edges of both covers, to prevent the binding cords, *d*, from unduly wearing those parts. The angle bar, *c*, is adjusted by means of a screw rod, *i*, held in a guide bar, *j*, and inserted in a threaded perforation in said angle bar, *c*. The outer end of such screw-rod is provided with a head adapted to receive a key, *l*. On the outer surface of the covers are made pockets, *n*, to receive the telescoping ends of the back strip, *m*. The margins of said ends of the back strip, are stiffened by strips of straw

board, *o*. To constrain the back strip, *m*, to its proper position with respect to the opening and closing of the book, it has fastened to it elastic bands *p*. The pockets, *n*, extend only for part of the length of the covers, the front portions of the two cover sections being provided with cavities *q*, for containing the bands *p*, as illustrated in Fig. 3.

The free extremities of the bands, *p*, may be removably fastened in place by devices more particularly illustrated in Fig. 6. The same consists of an eyelet, *s*, in the ends of the bands, *p*, inserted on a catch or fastener, *t*, resembling in construction a device commonly employed as a glove fastener. And upon the band, *p*, having been inserted upon the fastener, *t*, the hinged leaf, *u*, is closed, the latter being also adapted to snap over said fastener, *t*. The ends of the bands, *p*, may, however, be permanently fastened in any other convenient way.

The binding edges of the two cover sections are constructed in such a way as to provide recesses, *v*, the object of which is to allow some freedom of motion to the binding margin of the sheets, *w*, when inserting and removing the same, as illustrated for example, by the dotted line, *w'*, in Fig. 5.

The sheets of paper to be bound in my book are provided with the usual slots at their binding margins; and they are creased a short distance from the binding margin so as to facilitate the turning and arranging of the same, when the book is opened.

When my book is opened the elastic bands, *p*, will draw the back strip, *m*, taut as shown in Fig. 5. When my book is closed such back strip will be extended around the bound margins of the sheets as shown in Fig. 4. It will also be observed from Fig. 5, that when my book is open the binding-cords, *d*, by reason of being constructed of a flexible material, will assume a position enabling the proper flat arrangement of the leaves of the book.

By reason of the back of my book when opened resting flat on the table it is firm and convenient to write on.

The sheets of paper to be inserted in my book require only a narrow binding margin, because of the flexibility of the binding-cords, *d*.

To insert or remove the sheet of paper, is the work of but a moment. A few turns of the screw-rod, *i*, loosening the binding cords, *d*, so that the covers may be pulled apart and sheets of paper removed or inserted; and a few further turns of such screw-rod, in the reverse direction, again clamping the binding edges of the covers tightly upon the binding margins of the inserted sheets.

Of course the described construction of the angle-bar *e*, and the means for adjusting the same to tighten and release again the binding cords, are subject to mechanical

modification which it is not important to consider.

It will be observed that the bar, *e*, has projecting members, *e'*, *e''* joined to a socket, *e²*, the whole constituting a triangle. This construction may be adopted for obtaining greater strength. It is also to be noted that the telescoping feature of the back-strip may be used in one cover section only; that is to say, only one section of the covers being provided with a pocket in which one end of the back-strip telescopes, while the other end of the back-strip is rigidly fastened to the other section of the cover. The back strip may also be made entirely out of spring steel.

What I claim and desire to secure by Letters Patent is:

1. A temporary binder, comprising two covers, the binding edges of which are made with recesses *v*, to accommodate the binding margins of the leaves, bound between the covers; binding cords *d*, connecting the covers, and means for tightening and loosening again said binding cords, substantially as described.

2. In a temporary binder, the combination of covers, one of which is provided with a pocket; a back strip, one of the ends of which is arranged to telescope into said pocket, the other being connected to the other cover; binding cords connecting the said covers; and means for tightening and loosening said binding cords, for the purpose specified.

3. A separate leaf book, comprising two cover sections a pocket *n* on the exterior of one of such cover sections, a back strip one end of which telescopes in said pocket and the other end thereof being fastened to the other cover section, an elastic band connecting the telescoping end of the back strip to the cover section and by which band the back strip is constrained and adjusted relatively with the opening and closing of the book, binding cords connecting the two cover sections and means for tightening and loosening again such binding cords.

4. A separate leaf book, comprising two cover sections, a pocket *n* on the exterior of one of such cover sections, a back strip one end of which telescopes in said pocket and the other end thereof being fastened to the other cover section, an elastic band connecting the telescoping end of the back strip to the cover section and by which band the back strip is constrained and adjusted relatively with the opening and closing of the book, binding cords connecting the two cover sections, an adjustable bar to which the ends of the binding cords are fastened, and means for adjusting said bar to tighten and loosen again said binding cords.

5. A separate leaf book, comprising two cover sections, pockets *n* on the exterior of each cover section, a back strip the ends of

which telescope in said pockets, bands connecting the telescoping ends of the back strips to the cover sections and by which the back strip is constrained and adjusted relatively with the opening and closing of the book, binding cords connecting the two cover sections, and means for tightening and loosening again such binding cords.

6. A separate leaf book, comprising two cover sections, pockets *n* on the exterior of each cover section, a back strip the ends of which telescope in said pockets, bands connecting the telescoping ends of the back strips to the cover sections and by which the back strip is constrained and adjusted relatively with the opening and closing of the book, binding cords connecting the two cover sections, an adjustable bar to which the ends of the binding cords are fastened, and means for adjusting said bar to tighten and loosen again said binding cords.

7. A separate leaf book comprising two cover sections, one of such sections being provided with a pocket, *n*; a back-strip, one of the ends of which telescopes in said pocket, the other end being secured to the other cover section; binding cords, *d*, connecting the two covers; an adjustable bar, *c*, to which the ends of such binding cords are attached; means for preventing the undue wear of the binding edges of the covers by said binding cords; and means for adjusting said bar, *c*; there being cavities in the covers for containing said binding cords, and the adjusting devices therefor; substantially as described.

8. In a separate leaf book, comprising two cover sections, one of which is made with a pocket *n*, and a longitudinal cavity; a back strip, one of the ends of which telescopes in said pocket, the other end being secured to the other cover section; an elastic band in said cavity, one of the ends of which band is attached to the free end of the back strip, and the other end to the cover, and which band constrains the cover in accordance with the opening and closing of the book; binding cords *d*, connecting the two covers, and means for tightening and loosening again such binding cords, substantially as described.

9. In a separate leaf book, comprising two cover sections, one of which is provided with a pocket *n*, and a longitudinal cavity; a back strip, one of the ends of which telescopes in said pocket, the other end being secured to the other cover section; an elastic band in said cavity, one of the ends of which band is attached to the free end of the back strip, and the other end to the cover, and which band constrains the back strip in accordance with the opening and closing of the book; binding cords *d*, connecting the two covers; an adjustable bar *c*, to which the ends of such binding cords are attached; means for

preventing the undue wear of the binding edges of the covers by said binding cords; and means for adjusting said bar *c*; there being also cavities in the covers for containing said binding cords, and the adjusting devices therefor, substantially as described.

10. A separate leaf book, comprising two cover sections, respectively, made with pockets *n*, and longitudinal cavities; a back strip the two ends of which telescope in said pockets; elastic bands in said cavities, the ends of which bands connect the ends of back strip with the cover, so as to constrain the back strip, in accordance with the opening and closing of the book; binding cords *d*, connecting the two covers; and means for tightening and loosening again the binding cords; there being also cavities in the covers for containing said binding cords, and the adjusting devices therefor, substantially as described.

11. A separate leaf book comprising two cover sections respectively made with pockets *n*, and longitudinal cavities; a back strip, the two ends of which telescope in said pockets; elastic bands in said cavities the ends of which bands connect said ends of the back strip, with the covers so as to constrain the back strip in accordance with the opening and closing of the book; binding cords, *d*, connecting the two covers, an adjustable bar, *c*, to which the ends of such binding cords are attached; means for preventing the undue wear of the binding edges of the covers by said binding cords; and means for adjusting said bar, *c*, there being also cavities in the covers for containing said binding cords, and the adjusting devices therefor, substantially as described.

12. A separate leaf book, comprising two cover sections, respectively, made with pockets *n*, and longitudinal cavities; a back strip the two ends of which telescope in said pockets; elastic bands in said cavities attached to the telescoping ends of the back strip; means for removably attaching the outer ends of said elastic bands to the covers, so as to constrain the back strip in accordance with the opening and closing of the book; binding cords, *d*, connecting the two covers; an adjustable bar *c*, to which the ends of such binding cords are attached; means for preventing the undue wear of the binding edges of the covers by said binding cords; and means for adjusting said bar *c*; there being also cavities in the covers for containing said binding cords, and the adjusting devices therefor, substantially as described.

13. In a loose leaf binder, the combination of a pair of swinging covers, one of which is provided with an internal recess or chamber, binding strips to which the loose leaves are secured extending between the covers, and adjusting mechanism for the strips situ-

ated within said recess or chamber in the cover, and arranged to be operated from the outside of the chamber without opening or uncovering the same.

- 5 14. In a temporary binder or loose sheet holder, the combination with a pair of covers, one of which is provided with an internal recess or chamber, of binding strips to which the leaves are secured extending between the covers; and an adjusting screw
10 for said binding strips arranged in said recess longitudinally of the cover, said screw being adapted to be operated from without the cover by means of a key which may be
15 engaged therewith at the outer end of the cover.

- 15 15. In a loose leaf binder, the combination with a pair of covers, one of which is provided with an internal recess or chamber,
20 of binding strips to which the leaves are secured extending between the covers; and an

adjusting screw for said strips situated within said recess or chamber in the cover and adapted to be manipulated from without the same by means of a key. 25

16. In a loose leaf binder, the combination of a pair of covers, one of which is provided with an internal recess or chamber; binding strips to which the leaves are secured extending between the covers; and an
30 adjusting mechanism for the strips situated within said recess or chamber in the cover and adapted to be operated by means of a key without opening or uncovering the chamber. 35

In testimony whereof, I have hereunto affixed my signature in the presence of two witnesses, this 5th day of February, 1903.

HARRY F. BUSHONG.

Witnesses:

T. J. GEISLER,
MAE LOEB.