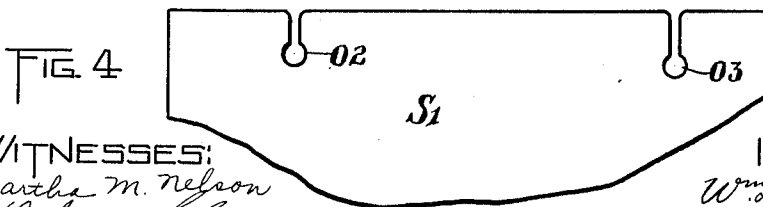
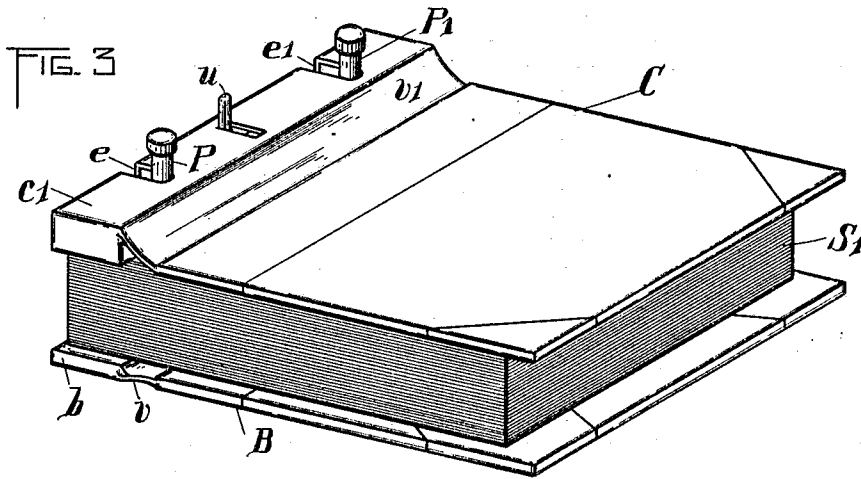
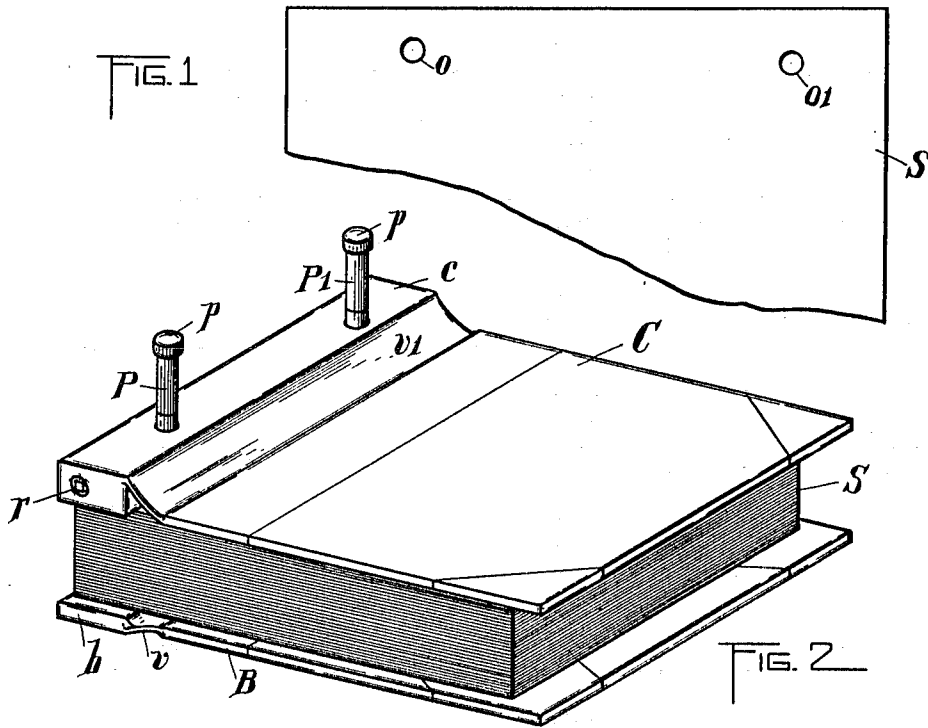


W. H. COOLEY.
 LOOSE LEAF BINDER AND LEAF THEREFOR.
 APPLICATION FILED MAY 6, 1911. RENEWED JAN. 26, 1912.

1,040,514.

Patented Oct. 8, 1912.

2 SHEETS—SHEET 1.



WITNESSES:
 Martha M. Nelson
 Osborn F. Gurney

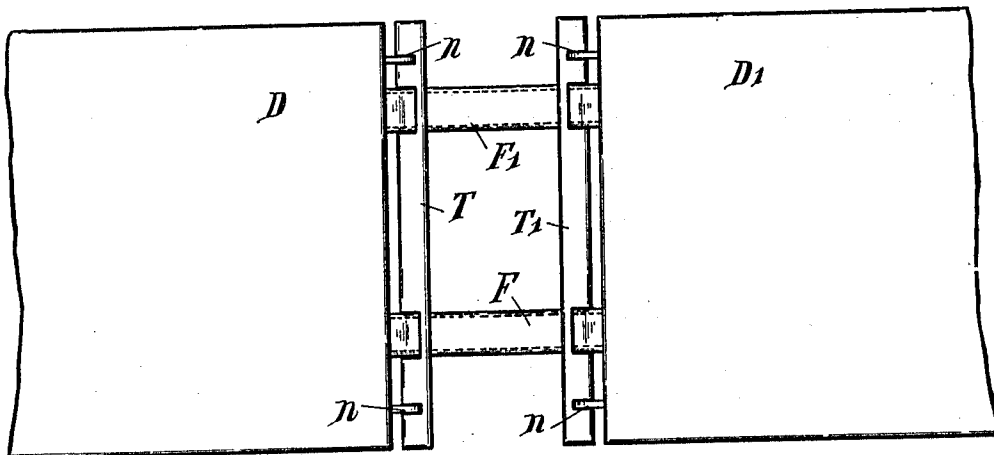
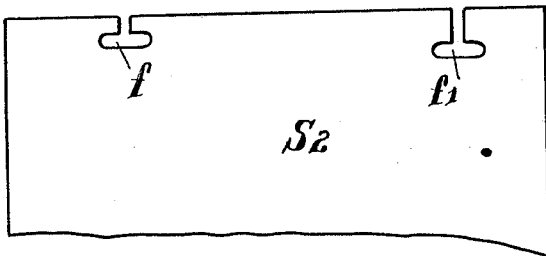
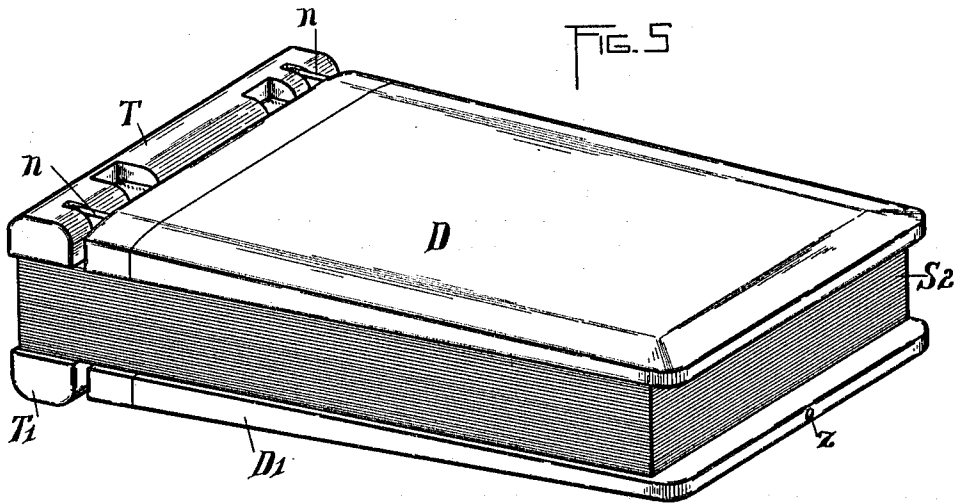
INVENTOR:
 W. H. Cooley

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2 SHEETS-SHEET 2.



WITNESSES:
 Marshall Wilson
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FIG. 7

INVENTOR:
 W. H. Cooley

UNITED STATES PATENT OFFICE.

WILLIAM H. COOLEY, OF BROCKPORT, NEW YORK.

LOOSE-LEAF BINDER AND LEAF THEREFOR.

1,040,514.

Specification of Letters Patent.

Patented Oct. 8, 1912.

Application filed May 6, 1911, Serial No. 625,571. Renewed January 26, 1912. Serial No. 673,986.

To all whom it may concern:

Be it known that I, WILLIAM H. COOLEY, a citizen of the United States, and a resident of Brockport, in the county of Monroe and State of New York, have invented a new and useful Improvement in Loose-Leaf Binders and Leaves Therefor, of which the following is a specification.

This invention relates to loose leaf binders and leaves therefor wherein the cover members of the binder are adapted to be held spaced different distances apart according to the number or quantity of leaves held in the binder between them.

My present invention does not however relate either to the character of the impaling means extending between the cover members or to the character of the connections between such impaling means and the cover or to the character of the cover members themselves.

In the use of many of such binders one cover member is frequently removed and all the leaves down to a predetermined point are removed by lifting them over the impaling posts and then any desired leaves are removed or additional ones inserted at such point. It frequently occurs that the leaves are turned wrong side up and thus inserted in the binder.

It is the purpose of my invention to provide such a structure of and coöperation between the binder and the leaves as will prevent the insertion of the leaves in alinement in the binder wrong side up and will also afford a ready means for detecting the presence in a pile of such leaves of any one or more leaves which are wrong side up. My present invention is, however, not limited to that class of binders in which one of the covers may be removed and thereafter the leaves down to any desired predetermined point by lifting the entire mass of leaves above such point off from and over the impaling posts, the free ends of which are thus exposed upon the removal of one of the cover members, but is also applicable, among other styles of binders, to that class in which flexible impaling means are provided permanently connected to one cover and slidably connected to the other and provided with means for operating such impaling means back and forth relatively to and in such last named cover member.

In the accompanying drawings I have

shown my invention as embodied in three of the above indicated styles of loose leaf binders.

The accompanying drawings illustrating such above indicated embodiment of my invention are as follows:

Figure 1 is a plan view of a part of a leaf adapted to use in the style of binder shown in perspective in Fig. 2 which shows in perspective a binder provided with sectional impaling posts secured to the lower cover while the upper cover, with the follower block attached thereto, is removable from the impaling posts. Fig. 3 shows in a similar view a modified arrangement of such a binder while Fig. 4 shows, in a view similar to Fig. 1, a modified form of one of the leaves adapted to use therein. Fig. 5 is a perspective view of a binder in which the impaling means comprise flexible bands while Fig. 6 is a view of a part of a leaf adapted to use in such a binder. Fig. 7 is a view of a part of the binder shown in Fig. 5 opened out and with the leaves removed therefrom.

Similar parts are designated by similar reference characters throughout the several figures of the drawings.

I may say that Figs. 2, 3 and 5 illustrate binders of well known construction.

Referring to Figs. 1 and 2, C is the upper cover member flexibly connected by means of the member v^1 to a follower plate c provided with openings adapted to receive the upper ends of the sectional impaling posts P and P¹ which may be of any of the well known structures built up in sections screwed or otherwise secured together end to end and with the upper sections provided with removable cap members p preferably threaded thereinto. The follower c carries a key actuated clamping mechanism having the operating rod r therein adapted to be engaged by an operating key.

B is the lower cover member flexibly connected by means of the member v to the post-carrying member b to which the bottom members of the sectional posts P and P¹ are secured.

In the modification of the binder shown in Fig. 3 the follower plate c^1 is provided with slots e and e^1 to permit of its ready removal from and insertion in place on the impaling posts P and P¹. In this modification the clamping mechanism for engaging

the impaling posts is actuated by means of the lever *u*. In the form of binder shown in Fig. 2 it is necessary to remove the cap pieces *p* before the removal of the upper cover member C and the follower plate *c*. In either of these forms of binder the leaves such as shown at S in Fig. 1 with closed holes or with open or slotted holes such as shown at S¹ in Fig. 4 may be used.

Refer now to Figs. 5, 6 and 7 which show a binder of well known construction in which D and D¹ are the cover members pivotally connected to the follower members T and T¹ by means of the hinge members *n*. The cover member D has secured directly thereto bands F and F¹ of flexible material such as leather. Through the members T and T¹ are provided openings to slidably receive the bands F and F¹ and such openings are positioned as indicated in Figs. 5 and 7 on the sides of such members T and T¹ adjacent to the cover members D and D¹ respectively while such openings are also positioned different distances from the back edges of the members T and T¹ necessitating a relative location of the openings *f* and *f*¹ in the leaves therefor, such as indicated in Fig. 6. The cover member D¹ is provided with mechanism under the control of a key insertible through an opening therefor as seen at *z* in Fig. 5 for drawing the bands F and F¹ into suitable slots therefor in the cover member D¹; such mechanism forming no part of my present invention no further showing thereof is made herein.

Leaves such as seen in Fig. 6 are insertible in the binder frame in the usual and well known way and in substantially the same way the leaves S¹ are insertible in the binder such as shown in Fig. 3 without removing the upper cover member.

It will be noticed that the openings *o* and *o*² and *f* for receiving the impaling posts P, P and the band F respectively are located nearer the back edge of the leaves than the corresponding openings *o*¹ and *o*³ and *f*¹ for receiving the posts P¹, P¹ and F¹ but these openings *o*, *o*² and *f* are located a greater distance from the left hand side edge of the corresponding leaves than the openings *o*¹, *o*³ and *f*¹ respectively are from the right hand side of the leaves. The result of this arrangement of the openings is that a number of the leaves such as S, S¹ or S² can be inserted in alinement in the binder therefor with only one side thereof uppermost thus preventing insertion of a leaf wrong side up. Again, attention is called to the fact that the relative positions of the openings form a ready means for determining, before any attempt is made to insert them in the binder, whether or no any of the leaves in a pile thereof are wrong side up as the effect of any such misplaced leaves is to block or

close the openings through the bundle of leaves and the location of any such leaf or leaves is immediately determined and such leaf or leaves removed from the pile and placed right side up before insertion in the binder. This I have found a matter of great convenience in the use of loose leaf binders. If the leaves have writing or printed matter on both sides no leaves can be inserted wrong side up and in this way the consecutive arrangement of the leaves is effected by numbering the leaves only on one side. Again, frequently opposite sides of the leaves of a binder are used for memoranda of a different class or kind, in which case this arrangement of openings in the leaves and the impaling means for engaging the same prevents the confusion which would result from the placing of the leaves wrong side up.

I may mention, however, that while I have shown only three modifications of binder structures and leaves therefor embodying my invention I do not limit myself to such or any specific structures of binder or proportion and arrangement of leaves therefor.

From the foregoing description of my invention it is believed that the use and application of the same is sufficiently clear to call for no further explanation herein.

I desire to call especial attention to the fact that my invention is embodied in a loose leaf binder structure having a plurality of impaling members at least two of which are disposed in a line oblique to the two opposite edges of the leaves adjacent to the back edges and in unsymmetrical relation to such two opposite edges whereby a plurality of leaves having correspondingly positioned holes may be held in alinement in the binder with only one side of each one thereof uppermost, although in the accompanying drawings I have shown a structure in which only two impaling members so positioned are made use of and in which the leaves are provided only with two correspondingly positioned openings.

It is of course understood that there must be such coöperation as to the conformation of the impaling members and the openings in the leaves therefor as to secure and maintain alinement of the leaves in the binder.

I claim—

1. In a loose leaf binder, in combination with a cover member carrying impaling members, a second cover member adapted to engage over and movable on the impaling members to accommodate varying quantities of leaves between the cover members, such impaling members disposed in unsymmetrical relation to the two opposite edges of leaves adapted to use in the binder adjacent to their back edges and two of such impaling members disposed in a line oblique to

such two opposite edges to permit a plurality of leaves having correspondingly positioned openings to be inserted thereover and held in alinement thereby with only one and the same and corresponding side of each one thereof uppermost.

2. A leaf for a loose leaf binder provided with openings for receiving the impaling members disposed in unsymmetrical relation to the two opposite edges thereof adjacent to the back edge and two of such openings disposed in a line oblique to such two opposite edges whereby a plurality of such leaves may be inserted over and held in alinement by correspondingly positioned impaling members with only one and the same and corresponding side of each one thereof uppermost.

3. In a loose leaf binder, in combination with a cover member carrying impaling members, a second cover member adapted to engage over and movable on the impaling members to accommodate varying quantities of leaves between the cover members, such impaling members disposed in unsymmetrical relation to the two opposite edges of leaves adapted to use in the binder adjacent to their back edges and two of such impaling members disposed in a line oblique to such two opposite edges and leaves for such binder each provided with openings correspondingly positioned and adapted to be inserted over and held in alinement by such impaling members with only one and the same and corresponding side of each one thereof uppermost.

4. In a loose leaf binder, in combination with a cover member carrying impaling members, a second cover member adapted to engage over and movable on the impaling members to accommodate varying quantities of leaves between the cover members, two of such impaling members disposed in a line oblique to the two opposite edges of leaves adapted to use in the binder adjacent to their back edges to permit a plurality of leaves having correspondingly positioned openings to be inserted thereover and held in alinement thereby with only one and the same and corresponding side of each one thereof uppermost.

5. A leaf for a loose leaf binder provided with at least two openings disposed in a line oblique to the two opposite edges thereof adjacent to the back edge to permit a plurality of such leaves to be inserted over and held in alinement by correspondingly positioned impaling members with only one and the same and corresponding side of each one thereof uppermost.

6. In a loose leaf binder, in combination with a cover member carrying impaling members, a second cover member adapted to engage over and movable on the impaling members to accommodate varying quantities

of leaves between the cover members, two of such impaling members disposed in a line oblique to the two opposite edges of leaves adapted to use in the binder adjacent to their back edges and leaves for such binder each provided with openings correspondingly positioned and adapted to be inserted over and held in alinement by such impaling members with only one and the same and corresponding side of each one thereof uppermost.

7. In a loose leaf binder, in combination with a cover member carrying impaling members, a second cover member adapted to engage over and movable on the impaling members to accommodate varying quantities of leaves between the cover members, such impaling members comprising the sole means for holding the leaves with two adjacent edges thereof in alinement in the binder and disposed in unsymmetrical relation to the two opposite edges of the leaves adapted to use in the binder adjacent to their back edges to permit a plurality of leaves having correspondingly positioned openings to be inserted over the impaling members and held thereby with two of their adjacent edges in alinement with only one and the same and corresponding side of each one thereof uppermost.

8. In a loose leaf binder, in combination with a cover member carrying impaling members, a second cover member adapted to engage over and movable on the impaling members to accommodate varying quantities of leaves between the cover members, such impaling members comprising the sole means for holding the leaves with two adjacent edges thereof in alinement in the binder and disposed in unsymmetrical relation to the two opposite edges of the leaves adapted to use in the binder adjacent to their back edges and leaves for such binder each provided with openings correspondingly positioned to engage over the impaling members and adapted to be inserted over the impaling members and held thereby with two of their adjacent edges in alinement with only one and the same and corresponding side of each one thereof uppermost.

9. In a loose leaf binder, in combination with suitable supporting means therefor, impaling members carried by such supporting means and disposed in unsymmetrical relation to the two opposite edges of leaves adapted to use in the binder adjacent to their back edges and two of such impaling members disposed in a line oblique to such two opposite edges to permit a plurality of leaves having correspondingly positioned openings to be inserted thereover and held in alinement thereby with only one and the same and corresponding side of each one thereof uppermost.

10. In a loose leaf binder, in combination with suitable supporting means therefor, impaling members carried by such supporting means and disposed in unsymmetrical relation to the two opposite edges of leaves adapted to use in the binder adjacent to their back edges and two of such impaling members disposed in a line oblique to such two opposite edges and leaves for such binder each provided with openings correspondingly positioned and adapted to be inserted thereover and held in alinement thereby with only one and the same and corresponding side of each one thereof uppermost.

11. In a loose leaf binder, in combination with suitable supporting means therefor, impaling members carried by such supporting means and disposed in a line oblique to the two opposite edges of leaves adapted to use in the binder adjacent to their back edges to permit a plurality of leaves having correspondingly positioned openings to be inserted over and held in alinement by such impaling members with only one and the same and corresponding side of each one thereof uppermost.

12. In a loose leaf binder, in combination with suitable supporting means therefor, impaling members carried by such supporting means and disposed in a line oblique to the two opposite edges of leaves adapted to use in the binder adjacent to their back edges and leaves for such binder each provided with openings correspondingly positioned and adapted to be inserted over and held in alinement by such impaling members with only one and the same and corre-

sponding side of each one thereof uppermost.

13. In a loose leaf binder, in combination with suitable supporting means therefor, impaling members, comprising the sole means for holding the leaves with two adjacent edges thereof in alinement in the binder, carried by such supporting means and disposed in unsymmetrical relation to the two opposite edges of leaves adapted to use in the binder adjacent to their back edges to permit a plurality of leaves having correspondingly positioned openings to be inserted over the impaling members and held thereby with two of their adjacent edges in alinement with only one and the same and corresponding side of each one thereof uppermost.

14. In a loose leaf binder, in combination with suitable supporting means therefor, impaling members, comprising the sole means for holding the leaves with two adjacent edges thereof in alinement in the binder, carried by such supporting means and disposed in unsymmetrical relation to the two opposite edges of leaves adapted to use in the binder adjacent to their back edges and leaves for such binder each provided with openings correspondingly positioned and adapted to be inserted over the impaling members and held thereby with two of their adjacent edges in alinement with only one and the same and corresponding side of each one thereof uppermost.

WM. H. COOLEY.

Witnesses:

MARTHA M. NELSON,
OSBORNE F. GURNEY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."