C. L. BENJAMIN & H. J. WIEGAND.

LOOSE LEAF BINDER.

APPLICATION FILED NOV. 2, 1908.

1,075,623.

Patented Oct. 14, 1913.

2 SHEETS—SHEET 1.

Fig. 1.

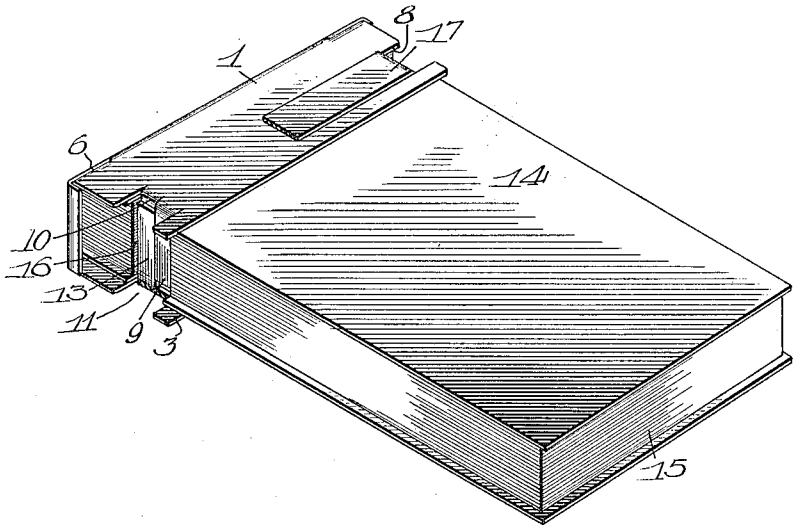


Fig. 6.

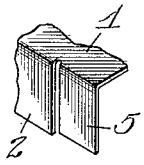


Fig. 5.

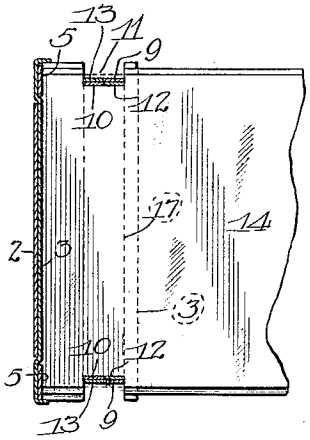


Fig. 2.

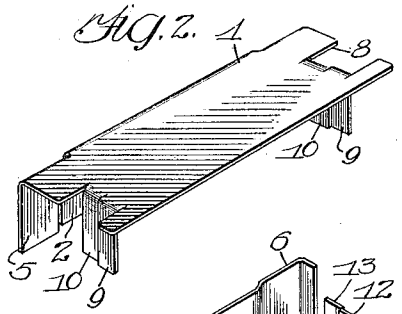


Fig. 3.

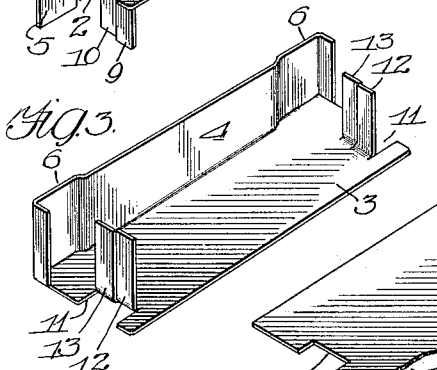
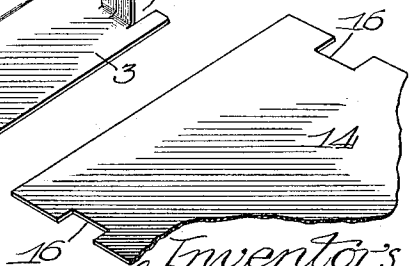


Fig. 4.



Witnesses:
Robert A. Weir
Frank H. Hubbard

Inventors
Charles L. Benjamin
and Henry J. Wiegand
By Edwin B. H. Lowe, Jr. Atty.

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

C. L. BENJAMIN & H. J. WIEGAND.

LOOSE LEAF BINDER.

APPLICATION FILED NOV. 2, 1908.

1,075,623.

Patented Oct. 14, 1913.

2 SHEETS—SHEET 2.

Fig. 8.

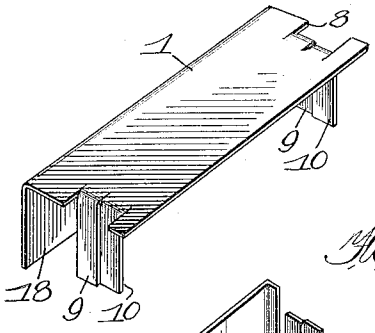


Fig. 7.

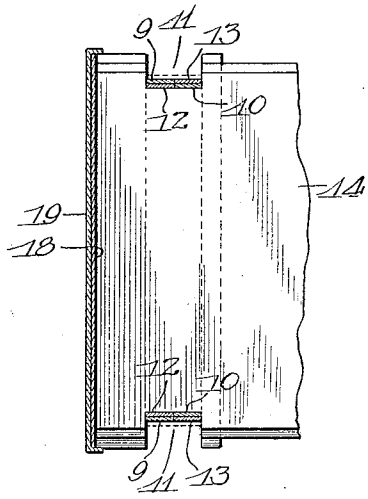


Fig. 9.

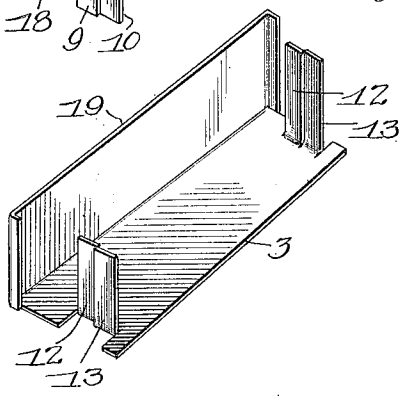


Fig. 10.

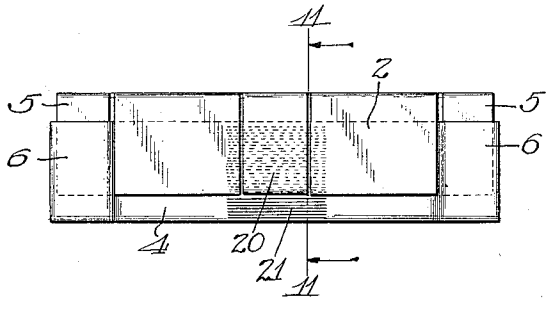
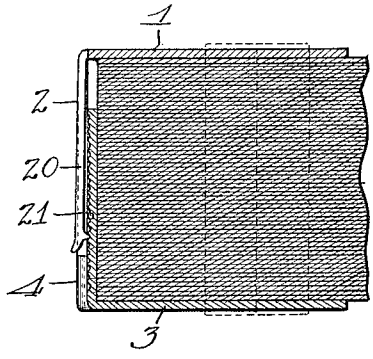


Fig. 11.



Witnesses:

Robert H. Weir

Frank H. Hubbard

Inventors:

Charles L. Benjamin

and Henry J. Wiegand

By: Edwin B. Hopkins Atty.

COLUMBIA PLANOGRAPH CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CHARLES L. BENJAMIN AND HENRY J. WIEGAND, OF MILWAUKEE, WISCONSIN.

LOOSE-LEAF BINDER.

1,075,623. Specification of Letters Patent. Patented Oct. 14, 1913.

Application filed November 2, 1908. Serial No. 460,778.

To all whom it may concern:

Be it known that we, CHARLES L. BENJAMIN and HENRY J. WIEGAND, citizens of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented new and useful Improvements in Loose-Leaf Binders, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawing, forming a part of this specification.

Our invention relates to improvements in loose leaf binders.

One object of our invention is to provide an efficient binder, which is simple in construction, and which can be made at small expense.

A further object of our invention is to provide an extensible binder, which may be readily adjusted to accommodate different quantities of leaves.

A further object of our invention is to provide a binder which will positively hold the leaves in alinement, irrespective of the quantity of leaves contained therein.

Other objects and advantages of our invention will be hereinafter set forth.

For the purpose of more clearly disclosing the characteristic features of our invention, we have illustrated certain embodiments thereof in the accompanying drawings.

It should be understood that our invention is susceptible of various modifications.

The views in the accompanying drawings are as follows:

Figure 1 is a perspective view of a tablet or booklet provided with one form of our invention. Figs. 2 and 3 are perspective views of the parts of the binder shown in Fig. 1. Fig. 4 is a perspective view of a portion of one of the leaves of the tablet, showing the manner of notching the same. Fig. 5 is a horizontal sectional view through a portion of Fig. 1. Fig. 6 is a detailed view of a portion of the binder. Figs. 7, 8 and 9, are views similar to Figs. 2, 3 and 5, showing a modified form of our invention. Figs. 10 and 11 illustrate one form of locking device for securing the members of the binder together.

The binder illustrated in Figs. 1 to 6 inclusive, is formed in two parts. The top 1 and portion 2 of the back are preferably formed integrally, while the bottom 3 and portion 4 of the back are also preferably formed integrally. The portion 2 of the back is slotted to form tongues 5—5 at opposite ends thereof. The tongues 5—5 are so arranged that their outer faces are substantially flush with the inner face of the intermediate portion of the back 2. The portion 4 of the back is provided at opposite ends with recesses 6—6, adapted to receive the tongues 5—5, while the ends of the portion 4 are bent forwardly at right angles thereto to form guides for the tongues 5. With this arrangement, when the two parts of the binder are fitted together, as shown in Fig. 5, the back thereof presents a smooth surface both inside and outside. The top 1 is provided at opposite ends with notches 8—8. Extending downwardly from the inner edge of each notch, and perpendicularly disposed to the top 1, are tongues 9 and 10, which are so arranged that the inner faces of the tongues 9 are substantially flush with the outer faces of the tongues 10. The bottom 3 is provided with notches 11 corresponding to the notches 8 in the top 1. Extending upwardly from the inner edge of each of the notches 11, and perpendicularly disposed to the bottom 3, are tongues 12 and 13, which are so arranged that the outer faces of the tongues 12 are substantially flush with the inner faces of the tongues 13. The arrangement of the tongues 12 and 13 is just the reverse of the arrangement of the tongues 9 and 10, so that when the two members of the binder are fitted together, as shown in Fig. 5, the tongues 10 fit between the tongues 13, while the tongues 12 fit between the tongues 9. The covers 14 of the tablet or booklet, and each of the leaves 15 thereof, are provided on opposite sides with notches 16, adapted to receive the tongues 9, 10, 12 and 13, of the binder. The notches 16 are preferably made to closely fit around the tongues to prevent the leaves from slipping out of alinement with one another. The two sections of the binder may be secured together by any suitable means. A convenient manner of securing the two members of the binder together, is to pass a rubber band 17 around the same, placing the band in the notches therein. Accidental displacement of the band is thus rendered impossible. When it is desired to insert or remove one or more leaves, it is only necessary to remove the rubber band, or other securing means, and then separate the two members of the

binder. The leaves can then be arranged as desired and the members of the binder fitted together, and then the rubber band placed thereon. With this arrangement there are no mechanical locking devices to unfasten or any screws to withdraw before separating the members of the binder, as is usually necessary with other forms of binders. Furthermore, the peculiar construction of the binder obviates all tendency of the parts to stick when separating or fitting the same together.

It is obvious that the binder may be extended to accommodate a greater quantity of leaves than is shown in the drawing. With many forms of binders, when the same are extended, the leaves contained therein are permitted to slip out of alinement, but this is rendered impossible with our binder owing to the peculiar arrangement of the tongues 9, 10, 12 and 13. As already explained, the arrangement of the tongues 9 and 10 is just the reverse of the arrangement of the tongues 12 and 13, and, therefore, one or both sets of tongues 10 and 12 will always engage the inner edges of the notches in each leaf and render lateral movement thereof impossible. Longitudinal movement of the leaves is prevented, owing to the fact that the combined width of the tongues 12 and 13 is the same as that of the tongues 9 and 10, and the notches are of substantially the same width as each pair of tongues. While we have illustrated the tongues 9, 10, 12 and 13, so formed as to fit into long, shallow notches, it should be understood that we do not wish to limit our invention to notches of any particular shape or size, or to any particular location of the tongues.

The binder just described is particularly designed for catalogues, note books, and the like, but may be used for other purposes as well.

In practice we prefer to stamp the parts of the binder out of sheet metal, of suitable thickness, but the same may be formed in any other suitable manner. Of course, the binder may be made in different sizes.

The binder illustrated in Figs. 7 to 9 inclusive, is substantially like that just described, with the exception that the back portions 18 and 19 thereof do not interlock, but merely overlap one another. In this construction we prefer to bend the ends of the portion 19 of the back forwardly at right angles thereto, so as to form guides for the ends of the portion 18. The tongues 9, 10, 12 and 13, in this instance, form the only interlock between the two sections of the binder, but the same are sufficient to prevent any relative movement thereof, except in a vertical direction.

As previously stated, the two sections of the binder may be secured together by any suitable means. In Figs. 10 and 11 we have illustrated a lock for the two sections of the binder which is applicable to either of the binders illustrated and which may be used in lieu of the elastic band illustrated in Fig. 1, or in conjunction therewith. This lock is formed by slotting one portion of the back of the binder to form a spring tongue 20. The tongue 20 is provided on its under side with a projection adapted to engage a corrugated portion 21, provided on the other portion of the back. This arrangement permits the two sections of the binder to be separated when a pull is exerted thereon and to be pressed together, but effectually prevents accidental separation of the sections. As before stated, the elastic band may be used in addition to the lock just described, although in practice it is not necessary to use the same.

We claim—

1. An extensible loose leaf binder having extensible members fitting into rectangular notches in opposite edges of the leaves, said extensible members at all times engaging all sides of the notches in each leaf to positively hold the leaves in alinement.

2. An extensible loose leaf binder, comprising a pair of substantially parallel plates, each of said plates being provided at opposite ends with pairs of angularly disposed tongues adapted to fit into notches in opposite edges of the leaves, the tongues of said plates being arranged to interfit to positively hold the leaves in alinement when the binder is extended.

3. An extensible loose leaf binder, comprising a pair of substantially parallel plates, each of said plates being provided at opposite ends with pairs of angularly disposed tongues adapted to fit into notches on opposite sides of the leaves, the tongues of said plates being arranged to interlock and to positively hold the leaves in alinement when the binder is extended, said plates being also provided at opposite ends with notches, the notches in said plates being in alinement.

4. An extensible loose leaf binder provided at opposite ends with extensible substantially rectangular posts formed in longitudinal sections having their outer surfaces flush with one another and each section forming a part of each face of its respective post.

5. An extensible loose leaf binder, comprising a pair of interfitting members provided at opposite ends with interfitting portions adapted to fit into notches on opposite sides of the leaves to positively hold the leaves in alinement when the binder is extended.

6. An extensible loose leaf binder, comprising a pair of substantially right angle plates, having portions thereof overlapping and provided with interfitting portions

adapted to fit into notches on opposite sides of the leaves to positively hold the leaves in alinement when the binder is extended.

7. An extensible loose leaf binder, comprising a pair of substantially right angle plates, having portions thereof overlapping, and provided at opposite ends with interfitting portions adapted to fit into notches on opposite sides of the leaves to positively hold the leaves in alinement when the binder is extended.

8. An extensible loose leaf binder, comprising a pair of substantially right angle plates, having portions thereof overlapping and interfitting, and provided at opposite ends with interlocking portions adapted to fit into notches on opposite sides of the leaves to positively hold the leaves in alinement when the binder is extended.

9. An extensible loose leaf binder, comprising a pair of members having portions thereof adapted to fit into notches on opposite sides of the leaves to positively hold the leaves in alinement when the binder is extended, and frictional means for securing said members together said means permitting separation of said members at will.

10. An extensible loose leaf binder, comprising a pair of substantially right angle plates, having portions thereof overlapping, and having portions adapted to fit into notches on opposite sides of the leaves to hold the leaves in alinement when the binder is extended, the overlapping portion of one of said members being provided with a yielding projection adapted to engage a roughened portion of the other member.

11. In an extensible loose leaf binder, comprising two sheet metal plates, each of said plates being provided at opposite ends with perpendicularly disposed tongues formed integrally therewith, the tongues on said plates being adapted to overlap and to positively hold the leaves in alinement when the binder is extended.

12. An extensible loose leaf binder, comprising a pair of right angle sheet metal plates having overlapping and interfitting portions, each of said plates being provided at opposite ends with a plurality of perpendicularly disposed tongues formed integrally therewith, the tongues on said plates being arranged to interfit to form substantially rectangular members adapted to fit into notches on opposite sides of the leaves, the tongues of each plate being adapted to positively hold the leaves in alinement without the aid of the tongues of the other plate when the binder is extended.

13. An extensible loose leaf binder, comprising a pair of sheet metal plates, each of said plates being provided at opposite ends with pairs of perpendicularly disposed tongues adapted to fit into notches on opposite sides of the leaves, the tongues of each pair being out of alinement and adapted to overlap and interfit a pair of tongues on the other plate to form a member of substantially the same shape and size as the notches in the leaves, the tongues of each plate being adapted to hold the leaves in alinement without the assistance of the tongues of the other plate when the binder is extended.

In witness whereof, we have hereunto subscribed our names in the presence of two witnesses.

CHARLES L. BENJAMIN.
HENRY J. WIEGAND.

Witnesses:
FRED H. CRANE,
F. H. PIEPER.

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