W. E. REED.

LOOSE LEAF BINDER.

APPLICATION FILED DEC. 22, 1915.

1,192,117. Patented July 25, 1916.

Fig. 1.

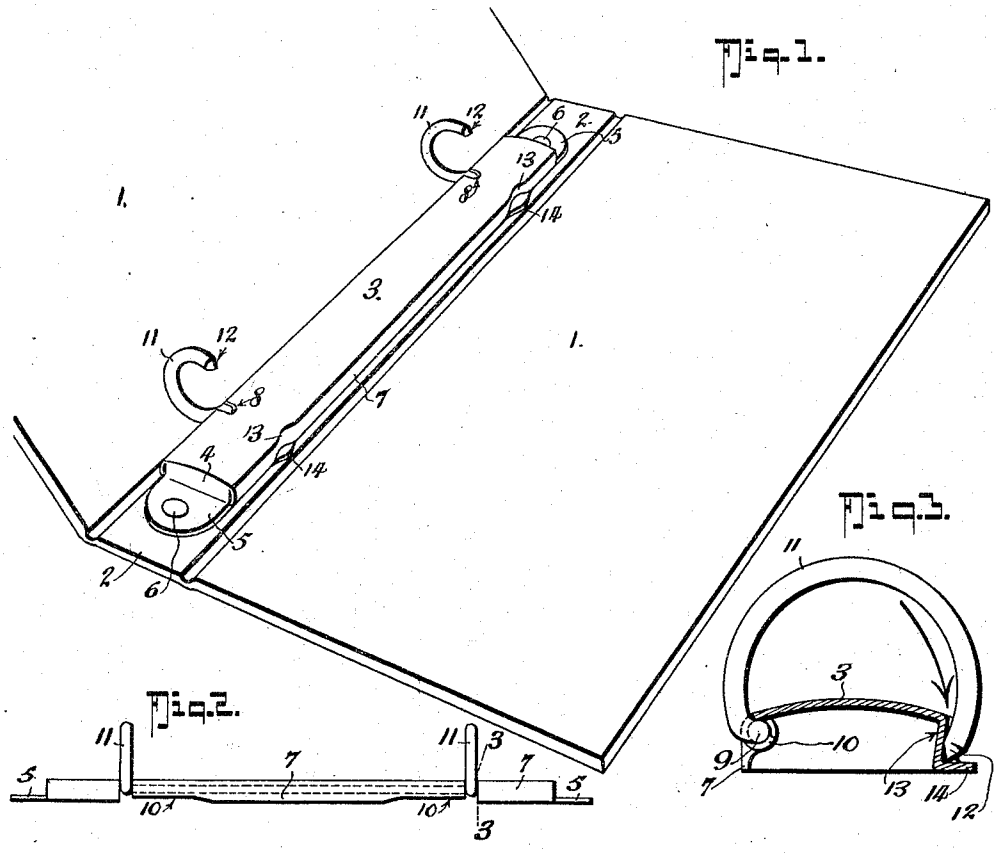


Fig. 2.

Fig. 3.

Fig. 6.

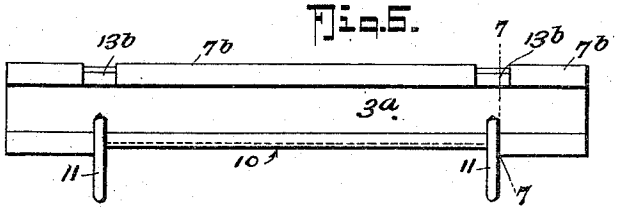


Fig. 7.

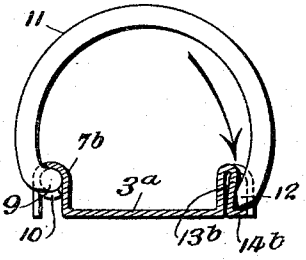


Fig. 4.

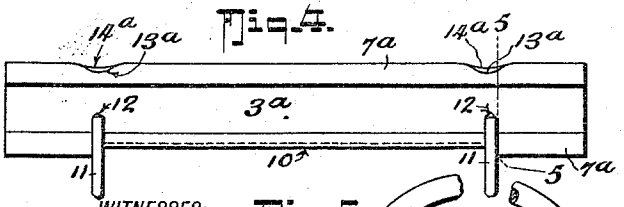
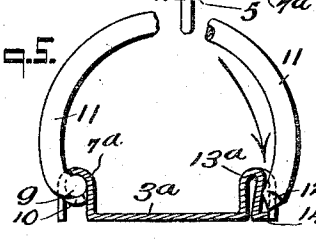


Fig. 5.



WITNESSES:

Charles J. Diller

May E. Immich

INVENTOR

W. E. Reed.

BY

Fred G. Dieterich Co

ATTORNEYS

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

UNITED STATES PATENT OFFICE.

WILBUR E. REED, OF ST. JOSEPH, MISSOURI, ASSIGNOR TO WESTERN TABLET COMPANY, OF ST. JOSEPH, MISSOURI, A CORPORATION.

LOOSE-LEAF BINDER.

1,192,117. Specification of Letters Patent. Patented July 25, 1916.

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To all whom it may concern:

Be it known that I, WILBUR E. REED, residing at St. Joseph, county of Buchanan, and State of Missouri, have invented certain new and useful Improvements in Loose-Leaf Binders, of which the following is a specification.

My invention primarily has for its object to provide a loose leaf binder in which the leaf holding mechanism proper is composed of two parts only so as to provide a device that can be easily and securely fastened to a back cover or case for the purpose of holding loose sheets of paper in place and for providing a convenient and handy method of removing or inserting individual sheets when desired, which device can be manufactured at a minimum expense.

A further object of the invention is to provide a loose leaf binder of a simple construction that will be positive in its locking features, thereby holding the leaves securely in place, and of such simple construction as to reduce the number of parts to the minimum and to avoid the necessity of employing spring devices which are liable to become broken or disarranged.

In its general nature, the invention comprises a metal fixture consisting of an elongated body adapted to be secured to the binder back and having a rod retaining member at one side in which a rod is mounted, the rod having arch members to engage the recesses formed in the opposite side of the fixture and serve as retaining loops for the removable sheets of paper.

In its more subordinate nature, the invention includes those novel details of construction, combination and arrangement of parts, all of which will be first fully described, then be specifically pointed out in the appended claims and illustrated in the accompanying drawings, in which:—

Figure 1 is a perspective view of one form of the invention showing the binder in the open position ready to receive leaves. Fig. 2 is a side elevation of the fixture *per se*. Fig. 3 is an enlarged cross section on the line 3—3 of Fig. 2. Fig. 4 is a top plan view of a modified form of the fixture, the arched members being moved back to their open position. Fig. 5 is a cross section on the line 5—5 of Fig. 4. Fig. 6 is a top plan view of a further modification. Fig. 7 is a cross section on the line 7—7 of Fig. 6.

In the drawings, in which like numerals of reference designate like parts in all of the figures, 1 represents the binder cover and 2 the binder back to which back the fixture is secured. The fixture comprises an elongated body 3 having sides 7 to form a channelway and provided with notches 8 on one side through which the loops or arches 11 project. The arches 11 are formed on the ends of the fulcrum rod 9 that is held in bearings 10, formed by bending over the edge of the binder body 3. The ends of the binder body 3 are closed by walls 4 from which the portions 5 project through which pass the rivets 6 by means of which the device is secured to the binder back 2. The arch members 11 may have rounded or tapered ends 12 to interlock with the recesses 13 which are pressed or bent into the side 7 of the fixture 3 opposite to the side at which the arch members are pivoted, the fixture having stops 14 against which the ends of the arches 11 may engage when the parts are in the closed position.

The construction of the recesses 13 with relation to the ends 12 of the arches is such that the arches will be held in the closed position (see Fig. 3) by the retaining friction due to the engagement between the ends 12 and the recesses 13, thus obviating the necessity of providing springs for holding the arches in the closed position.

Instead of the form shown in Fig. 1, the fixture or base 3 may be of the form shown in Figs. 4 and 5, that is, of the channel type, the sides of the fixture plate 3^a being formed as inverted U-shaped channels 7^a in one of which the fulcrum rod 9 of the arches is secured by bending over a portion of the side 7^a, as shown at 10, in Fig. 5, and in this form the recesses 13^a and stops 14^a are pressed in from the other side, as clearly shown in Figs. 4 and 5 of the drawings.

Instead of pressing the recesses 13 into the sides, as shown in Figs. 1 to 5 inclusive, they may be formed by slitting portions of the sides 7^b, (see Fig. 6) and bending the slitted portion inwardly to form the recesses 13^b and stop 14^b as shown in Figs. 6 and 7 of the drawings.

It will be observed that when the arches are closed the distance between the pivotal axis of the arch members and the point of contact with the recesses 13 is less than the distance between the pivotal axis and the

upper edge of the recesses 13, thus making it quite impossible for the arches 11 to become accidentally moved from the closed position, after having been once placed there. In order to open the arches, it is only necessary for the operator to grasp them, one at a time, or together, and pull them upwardly from the base portion of the fixture, rotating them on the axis from the position shown in Fig. 3 toward the position shown in Fig. 1. It will also be noticed that when the ends of the arches have been engaged in the notches 13, the metal is of sufficient firmness that a positive lock is obtained, thus preventing the arches from coming open from ordinary use, although leaving the same free to be opened up by the user, as above indicated.

I desire it understood that other changes in the details of construction, combination and arrangement of parts, may be readily made without departing from the spirit of the invention, the essential feature of which is the construction of the binder fixture of two essential parts namely,—the base and the arch members so arranged as to obtain the interlocking feature without the use of separate spring devices.

From the foregoing description taken in connection with the accompanying drawings, it is thought the complete construction, operation and advantages of my invention will be readily understood by those skilled in the art.

What I claim is:

1. In a temporary binder, the combination with a frame plate and an arch carrying pivot rod, one edge of said plate being bent around said rod to form a pivot bearing therefor, the opposite edge of said plate having arch end receiving recesses, said recessed portions of said plate having provision for engaging the rod arch ends with retaining friction, substantially as shown and described.

2. In a temporary binder, a body plate having arch receiving notches at one edge and arch end engaging and retaining recesses at the other edge opposite to said notches, and an arch carrying rod concealed beneath said base plate and having arch members projecting through said arch receiving notches, and means for fastening said plate to a binder, said body plate at the retaining recesses being designed to engage the ends of said arches with retaining friction.

3. In a temporary binder, the combination with the base section having an engaging bearing groove on one side and a pair of engaging notches bent in on the other side, two paper engaging arches and a pivot rod connecting the same, said pivot rod being held in said bearing groove and said arches projecting above said base and adapted to have their ends seated in said engaging notches, substantially as shown and described.

4. In a temporary binder, a fixture comprising a plate having side walls, arch receiving notches in one side wall and arch end engaging and retaining recesses formed in the opposite side wall, arch members pivoted to said base and projecting through said arch receiving notches, said arch members being adapted to be swung over with their ends in engagement with said recesses, the construction of the aforesaid parts being such that the arches will be held in engagement with the recesses by retaining friction.

WILBUR E. REED.

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