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LOOSE LEAF BINDER

Filed Aug. 25, 1926

Fig. 1.

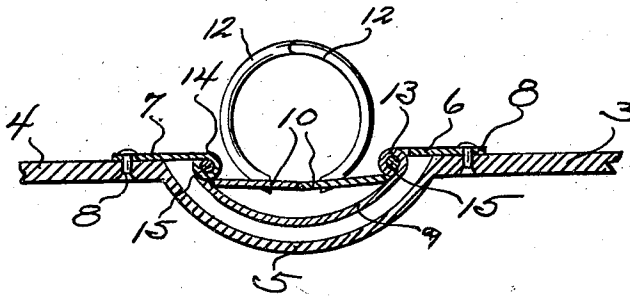
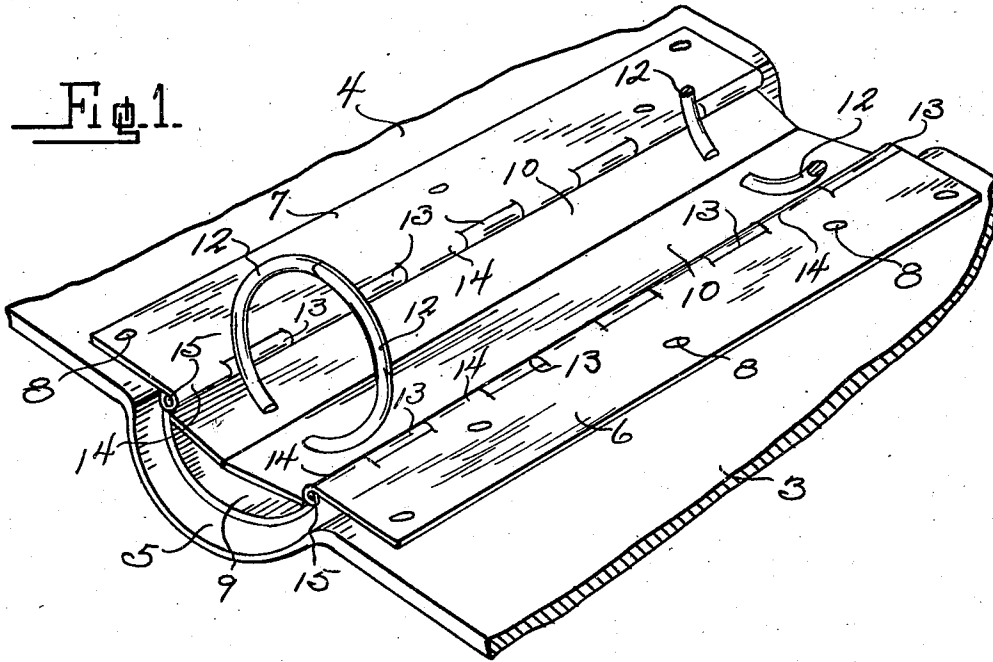


Fig. 2.

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# UNITED STATES PATENT OFFICE.

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## LOOSE-LEAF BINDER.

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This invention relates to loose leaf binders and has for its primary object the provision of a novel means for supporting the flexible arcuate back plate of a ring binder which is used to carry a pair of ring-supporting members articulated at their inner edge in such a manner that the rings are snapped to the open and closed position in the well known manner.

One of the primary objects of the present invention is the contemplation of a binder structure wherein the flexible arcuate back plate is supported independently of the back member of the binder.

Another object of this invention is the provision of a new binder structure which includes means for hingedly supporting the flexible arcuate back plate of a ring binder, which means are rigidly secured to the two covers respectively of the binder.

Minor objects and specific details of this invention will appear during the course of the specification, referring to the accompanying drawing, in which:

Figure 1 is a fragmentary perspective view of a ring binder made in accordance with this invention; and

Fig. 2 is a cross section through the same.

It is well known in the art that the usual custom of affixing the flexible arcuate back plate of a ring binder has been to secure the same through some suitable means to the flexible back of the book which joins the two covers. This practice limits the use of some desirable materials and always renders the back of the binder more or less rigid in appearance. It has been found that many other minor shortcomings of the ordinary ring binder structure are overcome through the use of a hingedly supported arcuate back plate and as a result of this invention a binder made in conformity with the embodiment shown in the drawing will be found to operate more efficiently, especially if the binder is one of the larger type.

Referring at this time to the specific details of construction, the binder is made up of a pair of ordinary covers 3 and 4 respectively, which are connected by a back member 5, which is preferably flexible to permit free movement of the covers 3 and 4. A plate 6 and 7 is rigidly secured to each of covers 3 and 4 respectively by means of rivets or analogous devices 8. These plates

6 and 7 extend toward each other and over the flexible back member 5 to a point where they join the flexible arcuate back plate 9, which as is customary, carries a pair of toggle plates 10, each of which supports a plurality of co-acting sheet engaging hooks 12. Plates 10 have their inner edges articulated in any suitable manner and their outer edges engaged by the arcuate plate 9 along its edges. Plate 9 has a plurality of curled lugs 13 which are disposed between like lugs 14 formed on the projecting edge of each plate 6 and 7. A hinge pin 15 passes through the curled lugs 13 and 14 of the plates 6 and 7 respectively to insure a hinged relation between the three members.

As shown in Fig. 2 this construction provides a flexible arcuate plate adapted to carry the well known toggle plates 10 which is supported entirely independently of the back 5 of the binder. The covers themselves through plates 6 and 7 support the entire mechanism of the binder.

As has been previously set forth herein, this new construction is extremely desirable and while the accompanying drawing shows but one form of the invention, it is desired not to be limited to any specific structure except as defined in the appended claims.

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

1. A loose leaf binder comprising a pair of covers, a flexible back member connecting said covers, a plate rigidly secured to each of said covers, a flexible back plate hingedly supported by said plates and a pair of ring carrying toggle members carried by said flexible back plate.

2. The combination with a loose leaf binder having a pair of covers joined by a flexible back member, of a flexible back plate supported independently of said back member by a pair of plates secured to each cover respectively and ring carrying toggle members carried by said flexible back plate.

3. The combination with a loose leaf binder having a pair of covers joined by a flexible back member, of a flexible back plate hingedly supported along its two edges by a pair of plates secured to each cover respectively and a pair of co-acting, ring carrying, toggle plates, carried by said flexible back plate.

4. In a loose leaf binder of the character described, a flexible arcuate back plate hing-  
edly supported along its edges and a pair of  
ring carrying toggle plates mounted in said  
back plate.
5. In a loose leaf binder of the character  
described, a flexible arcuate back plate, a  
pair of ring carrying toggle plates carried  
thereby and means hingedly engaging the  
sides of said arcuate back plate for hingedly  
securing the same to the covers of said  
binder.
6. In a loose leaf binder of the character  
described, a flexible arcuate back plate, tog-  
gle plates carried thereby and means hing-  
edly engaging the sides of said back plate  
for supporting the same in spaced relation  
to the back of said binder.
7. In a loose leaf binder of the character  
described, a flexible arcuate back plate, ring  
carrying toggle plates articulated at their  
inner edges and engaging the edges of said  
arcuate back plate and means secured to each  
cover of the binder respectively and hingedly  
engaging the toggle plate engaging edges  
of said flexible arcuate back plate.
- In testimony whereof, I affix my signature  
this 17th day of August, 1926.

RICHARD M. VAN VALKENBURGH.