

1,299,276.

Patented Apr. 1, 1919.

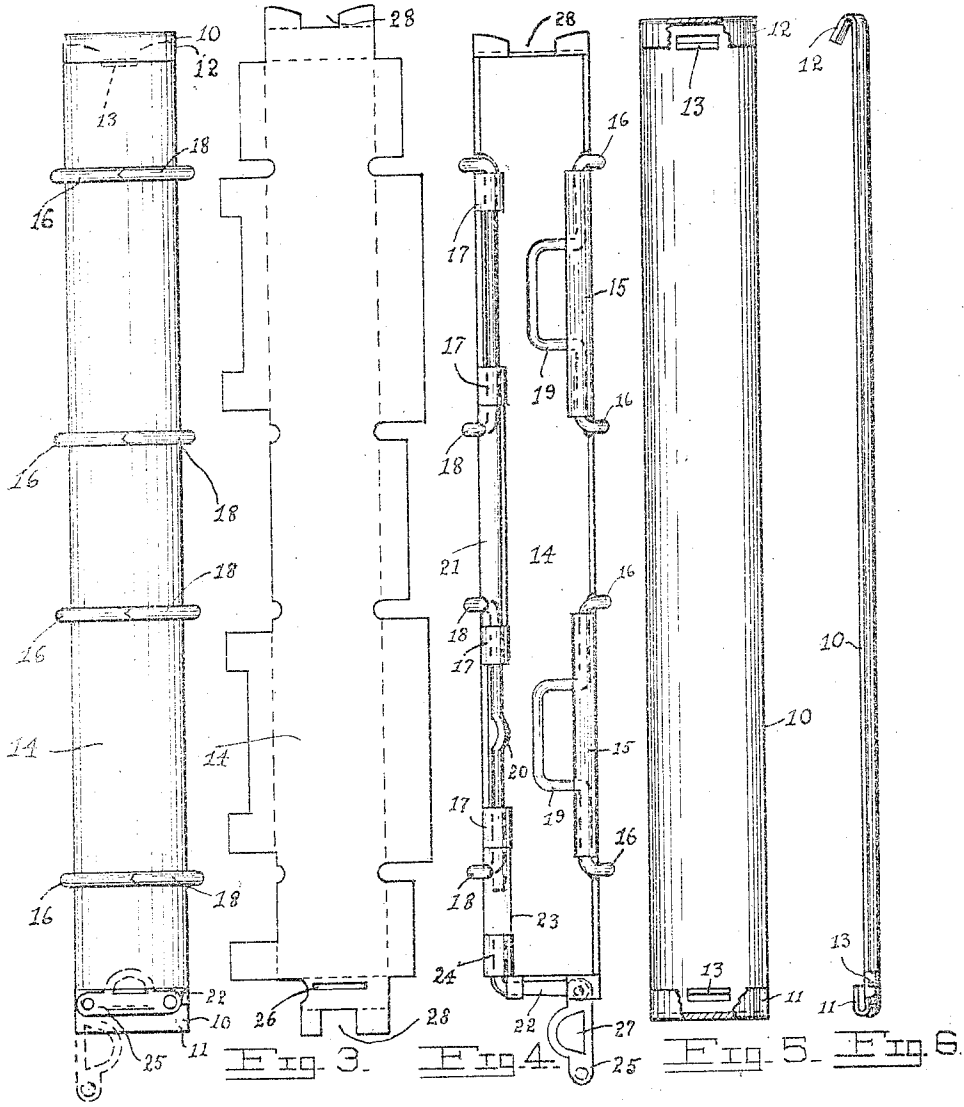
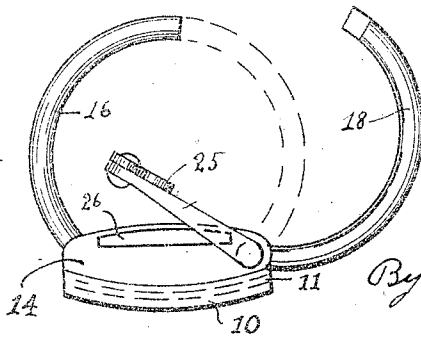


Fig. 1.

Fig. 2.



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LOOSE-LEAF BOOK.

1,299,276.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, RALPH G. WHITLOCK, a citizen of the United States, residing at the city of Los Angeles, State of California, have invented new and useful Improvements in Loose-Leaf Books, of which the following is a specification.

My invention relates to the construction of the metal portions of the cover or case, which, for distinction, I call the back frame, and the object thereof is to cheapen the construction of such portions and to provide simple means for opening and closing the ring members which, at the same time, locks them in their closed or holds them in their open positions.

A further object is to provide a simple member which is bound in the cover and which co-acts with the leaf holding member and quickly and easily secures the same to the cover.

In the drawings forming a part of this application:

Figure 1 is a plan looking at the rings.

Fig. 2 is an enlarged view of the lock end.

Fig. 3 is a plan of the sheet metal blank which forms a part of the leaf holding member before the same is formed for use.

Fig. 4 is a plan of the leaf holding member of Fig. 1 looking at the same from the reverse side, with the locking lever in open position.

Fig. 5 is a plan view of the cover member.

Fig. 6 is an edge view of the cover member partly broken away.

Referring to the drawings: 10 is a strip of sheet metal which is formed with turned over ends 11 and 12 and which has lugs 13 struck up near the upturned ends as best shown in Figs. 5 and 6, and forms what I term the cover member of the back frame. This cover member is bound up with the material of which the cover is made and lies between the lining and outer surface of that portion of the cover which forms the back. The upturned ends 11 and 12 and ends of lugs 13 project through the lining after the same is positioned. The leaf holding member is composed of a body plate 14 whose edges are partly cut away and the uncut portions are turned over to form on one side bearings 15 in which are mounted the stationary ring members 16, and on the other side bearings 17 in which are rotatably mounted the movable ring members 18. The stationary ring members are preferably

formed of heavy wire which is bent at the ends into half rings which project over the plate. Below the plate these members have an offset portion 19 across which bearings 15 pass thereby holding the offset portions in contact with the plate and the members rigid or stationary with reference to the plate. The movable ring members 18 are preferably formed of heavy wire which is bent at the ends into half ring members which project above the plate. Below the plate one of these members has a slight bend as shown at 20 in Fig. 4 which forms what I term a friction and stop lug as it bears against plate 14 when the rings are being opened and contacts with the downturned edge of the plate when the rings are fully opened and stops their further movement. In the drawings I have shown a four ring device but the same may be constructed to have only two rings. In a four ring device it will be observed that the half ring members are constructed in pairs and that the pairs of movable half ring members are connected by a short tube 21 to which they are soldered or otherwise rigidly united. An opening and closing L-shaped lever 22 is connected to one of the pairs of the movable half ring members by means of a short tube 23 into which the shank of lever 22 passes and which is rigidly united thereto and to the half ring member by solder or otherwise. The shank of lever 22 passes through a bearing 24 formed out of the edge of plate 14. To the end of lever 22 is pivotally connected the locking plate 25 which is adapted to be swung open as shown in Fig. 4 when the ring members are to be opened, or to be swung shut when the ring members are in their closed position as shown in Fig. 1 and thereby lock them in such position. As plate 25 is swung to its locking position the curved edge thereof passes into an aperture 26 in the end of plate 14. For ease in opening I provide an aperture 27 in plate 25. In the ends of the blank out of which plate 14 is formed are notches 28 in which are received the upturned lugs 13 of the cover member.

As shown in Fig. 3 there is an outer dotted line across each of the ends of the blank at the rear of notches 28 and inner dotted lines near the first lines.

The ends of the blank are bent downwardly and at right angles to the longitudinal plane at the inner dotted lines and bent

outwardly on the outer lines, so that the sides of notches 28 lie in a plane parallel with the plane of the plate.

As before stated the cover member is bound up with the material out of which the cover is formed and the lugs 13 thereof project inwardly above the lining. The ring members having been assembled as hereinbefore described are positioned by sliding one end thereof under the turned end 11 of the cover member and then pushing the other end down into contact thereof. In so doing notches 28 straddle lugs 13. One of the upturned ends 12 of the cover member when it is bound in the cover is left at an angle as shown in Fig. 6 to permit this movement of the ring member and after the ring member is thus positioned, end 12 is bent down and holds that end from rising and coming out. By this construction it will be seen that the cover containing the cover member is manufactured as a separate unit from the ring member which is afterward connected thereto by means of co-acting parts which can be quickly and easily positioned. It will also be observed that the ring member is adapted to hold leaves and form a loose-leaf book without the cover.

Having described my invention, I claim:
1. In a loose leaf book a cover member having upturned overhanging ends and lugs struck therefrom projecting toward the overhanging ends, said member being adapted to be bound in the cover with the lugs and overlapping ends projecting above the lining.

2. In a loose leaf book a ring member comprising a body plate having portions of the edges turned to form bearings and the ends notched and turned downwardly and the portions forming the sides of the notches turned outwardly, one of said ends having an aperture therein; half ring members mounted in said bearings, the half ring members on one side being movable and those on the other side being stationary with reference to the body plate; and means connected to the movable members to move the same and to lock the same in their closed position, said locking means entering said aperture.

3. In a loose leaf book a cover member

having upturned overhanging ends and lugs struck therefrom projecting toward the overhanging ends, said member being adapted to be bound in the cover with the lugs and overlapping ends projecting above the lining, in combination with a ring member comprising a body plate having notches in the ends thereof adapted to straddle the lugs of the cover member and to be connected thereto when the overlapping ends of the cover member are positioned, said body plate having portions of the edges turned to form bearings; half ring members mounted in said bearings, the half ring members on one side being movable and those on the other side being stationary with reference to the body plate; and means connected to the movable members to move the same and to lock the same in their closed position.

4. In a loose leaf book a ring member comprising a body plate having portions of the edges thereof turned to form bearings and turned ends, one of said ends having an aperture therein; half ring members rigidly mounted in said bearings on one side of said plate; co-acting half ring members mounted for oscillating movement in the bearings on the other side of said plate; an L-shaped lever connected to the movable half ring members; and a locking plate pivotally connected to said lever and adapted to be swung so that a portion thereof will enter the aperture in the turned end of said plate when the ring members are closed, and thereby lock the same from opening.

5. In a loose leaf book a ring plate having portions of the edges thereof turned to form bearings; a plurality of pairs of half ring members movably mounted in the bearings on one side, and a plurality of coacting ring members mounted in the bearings on the other side, said last members to be stationary with reference to said plate; means to connect the pairs of movable half ring members; means to move said movable members; and means to lock said movable members in their closed position.

In witness that I claim the foregoing I have hereunto subscribed my name this 4th day of April 1918.

RALPH G. WHITLOCK.