Aug. 27, 1963 M. VERNON 3,101,719

LOOSE LEAF BINDER

Filed June 21, 1960

FIG.1.

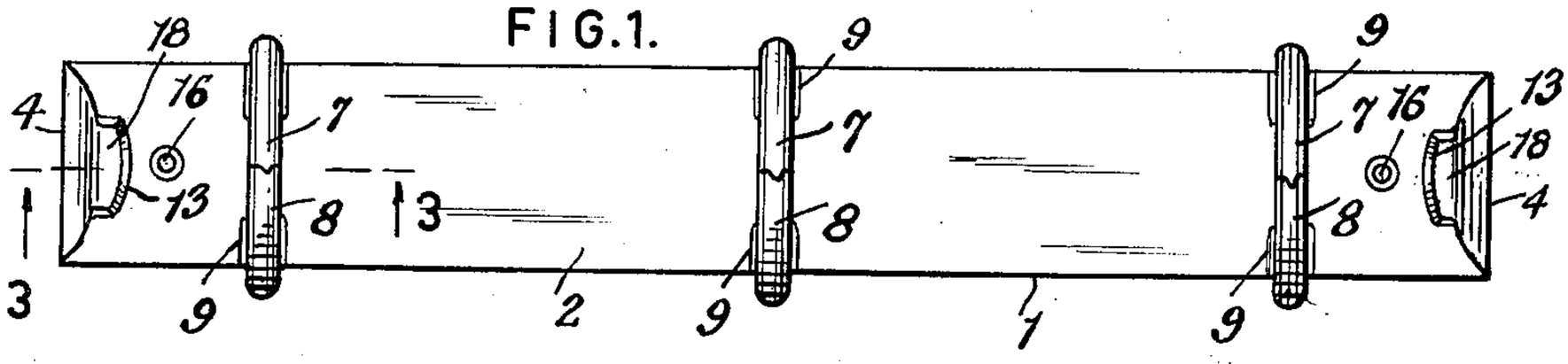



FIG.2.

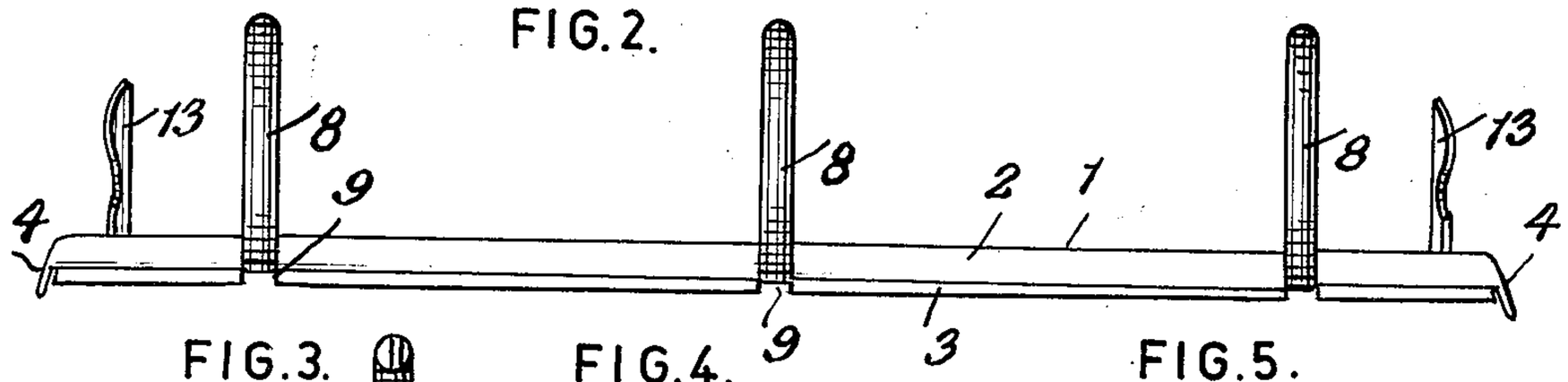



FIG.3.

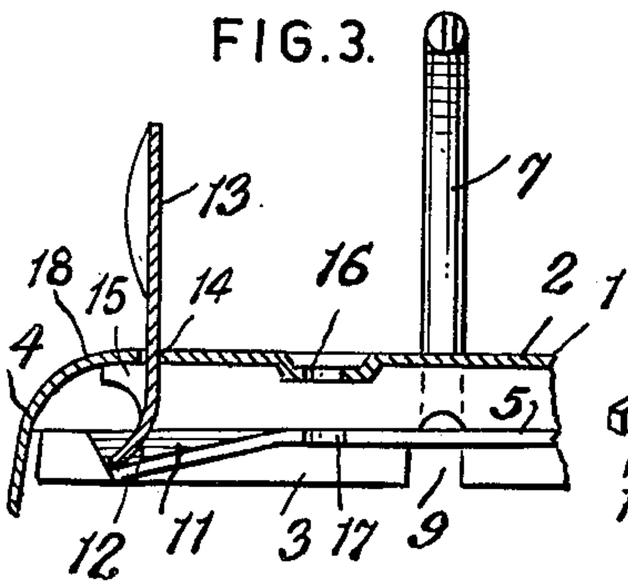



FIG.4.

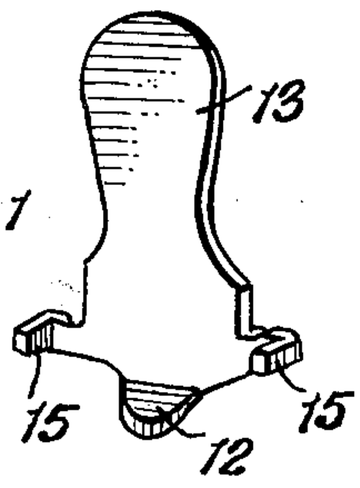



FIG.5.

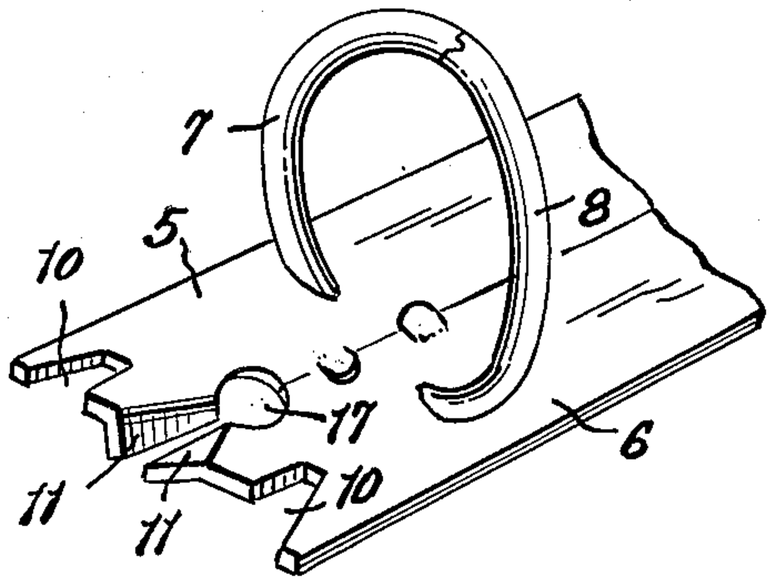



FIG.6.

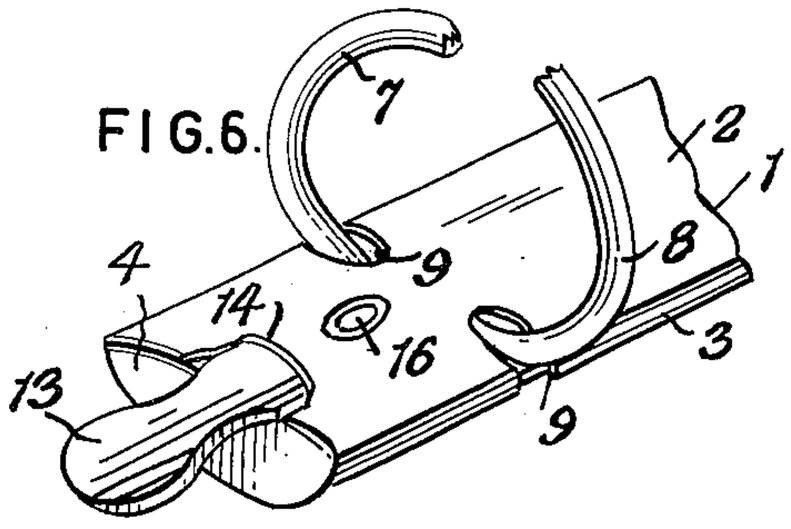



FIG.7.

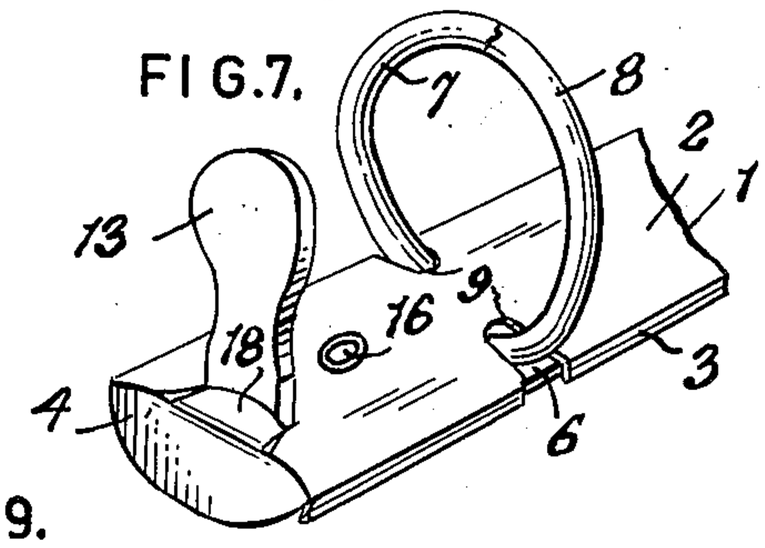



FIG.8.

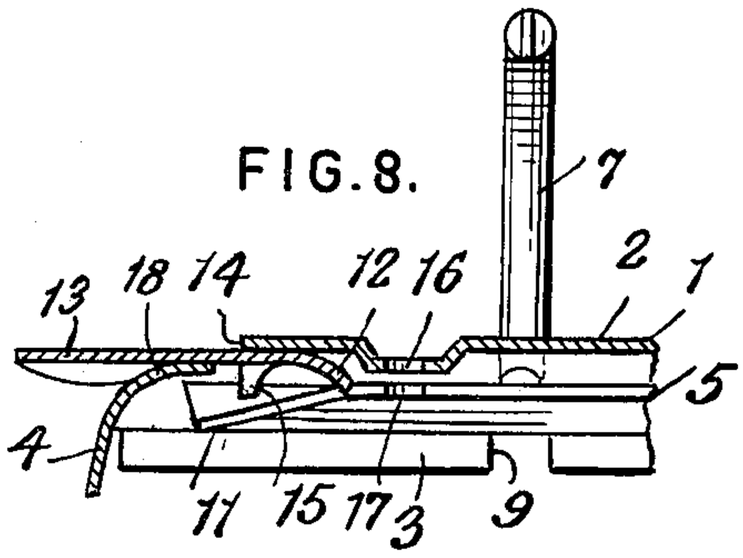
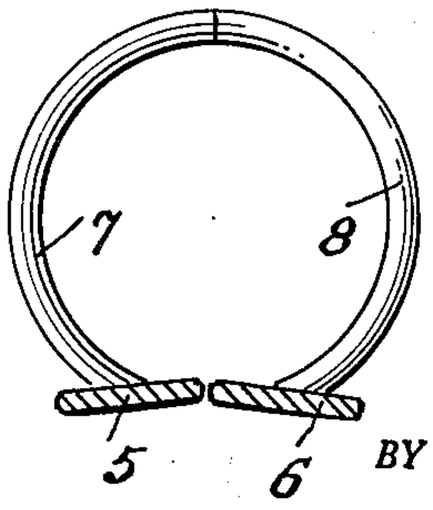



FIG.9.

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3,101,719

Patented Aug. 27, 1963



3,101,719

# LOOSE LEAF BINDER

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Filed June 21, 1960, Ser. No. 37,775
1 Claim. (Cl. 129—24)

This invention relates to loose leaf binders and more particularly to a type in which the sheets are held in rings having halves which are moved to bring them together or apart by means of levers.

It is an object of the invention to provide a binder of this character by which a positive movement to open or closed condition is obtained by lever movement, with the rings of the binder maintained in either the open or closed position until shifted from such position by manual manipulation of the levers.

It is an object of the invention to provide a binder having a construction with which inadvertent opening or closing of the rings will be prevented.

It is an object of the invention to provide locking means for the rings, with such means so constructed and arranged that the rings cannot be opened without the operation of said means.

More particularly, the invention contemplates the provision of a hood or shield in which a pair of plates in side-by-side relation is confined, which plates carry ring halves or segments, and of pivotally mounted operating levers located at the opposite ends of the hood and which, while in an upstanding position, so contact the plates as to hold the same with their respective ring segments in contact; the levers, when both are moved to a horizontal or lowered position, permitting the plates to assume upwardly directed angular positions of such degree as to cause separation of the ring segments.

With these and other objects to be hereinafter set forth in view, I have devised the arrangement of parts to be described and more particularly set forth in the claim appended hereto.

In the accompanying drawing, wherein an illustrative embodiment of the invention is disclosed,

FIG. 1 is a plan view of a loose-leaf binder, constructed in accordance with the invention;

FIG. 2 is a side elevational view of the same;

FIG. 3 is a sectional view, taken substantially on the line 3—3 of FIG. 1, looking in the direction of the arrows;

FIG. 4 is a perspective view of one of the operating levers;

FIG. 5 is a perspective view of one end of the ring-bearing plates;

FIG. 6 is a perspective view of one end of the binder, showing the same with its rings in open position;

FIG. 7 is a similar view, but showing the binder with its rings in closed position;

FIG. 8 is a sectional view somewhat similar to FIG. 3, but showing the binder with the rings in open position, and

FIG. 9 shows the plates in cross section, with a ring half or segment attached to each of them.

The improved binder is primarily composed of ring segments or halves secured to a pair of plates that are moved relatively to one another in a manner to cause opening or closing movement of the halves of the rings; operating levers which by their movements, cause such opening or closing, and a hood or shield within which the plates and parts of the levers are confined.

The hood or shield is generally indicated at **1** and the same has a convexly curved top wall **2**, side walls **3** and end walls. **4**. Contained within the hood or shield **2** is a pair of similar, lengthy plates **5** and **6** which



extend for nearly the interior length of the hood, and normally lie flat or at a very slight angle to one another and in side-by-side relation, substantially as shown in FIG. 9.

Secured to the top of the plate **5** is a plurality of half rings or segments **7**, while secured to the top of the plate **6** are the co-operating half rings or segments **8**. The hood is provided with suitable apertures **9** through which the ring halves or segments extend and in which they can freely move to their open or closed positions.

Each of the plates **5** and **6** is provided at its opposite ends with notches **10** and also with an angularly-bent portion **11**. When the two plates **5** and **6** are disposed in their side-by-side relationship as shown in FIG. 5, it will be noted that the two angularly-bent elements **11** co-operate in the formation of a depression or recess to receive a lug **12** formed on one of the operating levers **13**.

One of these levers **13** is situated at each end of the hood **1**, the hood being apertured at each end, as shown at **14**, to permit the passage of the lever. Each of the levers is engaged by a spring tongue **18** formed out of the body of the hood, which tongues tend to retain the levers in their upright position. In addition to the centrally located, angularly disposed lug **12**, each lever **13** is provided with laterally-extending side lugs **15** which fit in the notches **10** of the plates **5** and **6**.

The binder is secured to the back of a cover (not shown) by rivets or other equivalent fastening elements, which pass through openings **16** in the top wall **2** of the hood. An aperture **17** is provided in the plates **5** and **6** in alignment with aperture **16** to provide clearance for the rivets or other fastening elements.

The normal or closed position of the binder is shown in FIGS. 1, 2, 3 and 7 wherein it will be seen that the operating levers **13** are in a vertical or upright position and that while in such position, the lugs **12** of the levers are disposed in the deeper parts of the inclined recesses formed by the parts **11** and are exerting downward pressure on the plates in opposition to the springy tendency of the side walls **3** of the hood to exert pressure on the plates in a direction transversely of the same, which latter pressure would tend to increase the angle at which the plates are disposed relatively to one another and would tend to move the ring halves or segments apart. However, as long as one or the other of the operating levers remain vertical or in an upright position, and the lugs **12** thereof are engaged deeply in the recess or depression formed by the angular parts **11**, **11** of the plates **5** and **6**, the angularity of the plates will remain relatively flat, or as shown in FIG. 9, and the rings will remain closed.

When it is desired to separate the ring halves, or in other words, to open the binder, as shown in FIGS. 6 and 8, it is merely necessary to move both of the operating levers **13** down to lowered or horizontal position. This moved lugs **12** into the shallow parts of the recesses formed by the parts **11**. When that is done, the springy tendency of the walls **3** of the hood will become effective on the plates **5** and **6** and will tend to incline the plates to a sharper angle in relation to one another, thus causing separation of the halves of the rings and the opening of the binder. As long as the operating levers remain in the down or horizontal position, as shown in FIG. 6 and 8, the ring halves will remain separated. To close the ring requires movement of one of the levers **13** to upright or vertical position, or that shown in FIGS. 1, 2, 3 and 7. This will cause downward pressure to be exerted on the plates **5** and **6** at their opposite ends and will result in their descent to thereby bring the ring halves together into closed position. Movement of only one of the levers **13** will not permit opening but movement of one lever will cause closing of the ring halves. When

the plates 5 and 6 are in their upright position, the rings cannot be manually pulled apart, and can only be opened by lowering both of the levers. Thus, if the binder should be dropped, the opening of the rings will not take place.

Briefly reviewing the operation, the plates 5 and 6 are normally urged toward engagement at their inner abutting edges by the side walls 3 of the hood, i.e. toward an increased angular relationship from that shown in FIG. 9.

The tongues 18 form one side of the apertures 14 and are normally in the condition shown in FIG. 7 wherein the levers 13 are maintained substantially vertical, i.e. maintaining the ring halves 7, 8 closed. When the levers 13 are vertical the lugs 12 of the levers are in the lowermost or deepest portion of the grooves formed by the diverting angular parts 11, 11, see FIGS. 3 and 5.

When the levers 13 are pivoted on the tongues 18 to the position shown in FIG. 8, the tongues 18 providing a slightly resilient fulcrum or base for the levers, the lugs 12 will move inwardly along the grooves formed by parts 11, 11. When this occurs, the inward pressure of walls 3 on the outer linear edges of plates 5, 6 causes the ring halves 7, 8 to open as seen in FIG. 6.

Movement of the levers 13 from the position shown in FIG. 8 to that of FIG. 3 will cause lugs 12 to exert a downward pressure between plates 5, 6, in the groove formed by flanges 11, 11, relieve any pressure on tongues 18, and cause the ring halves 7, 8 to close.

It will be noted from FIG. 3 that the position of lugs 12, i.e. subject to the normal pressure on plates 5, 6 by spring walls 3, tends to pivot the levers 13 about the inner edge of aperture 14 toward a plate-locking position.

Having described a single embodiment of the invention, it is obvious that the same is not to be restricted thereto, but is broad enough to cover all structures coming within the scope of the annexed claim.

What I claim is:

A binder comprising an elongated hood having a convexly curved top wall including depending, resilient side walls and transverse depending end walls, said end walls including a tongue formed from said top wall and terminating at an aperture in said top wall, said top and side walls including intermediate apertures for receiving ring halves therein; a pair of parallel elongated plates extending longitudinally within said hood and including ring halves projecting through said intermediate apertures, said plates including abutting inner edges and outer edges engaged by and subject to the pressure of said resilient side walls of said hood and normally urging said ring halves apart, said plates including angular flanges at the terminal ends thereof forming grooves diverging from the abutting inner edges and notches opening into the ends of said plates and flanking said grooves; and normally vertical levers pivotally disposed in the aperture in said top wall adjacent the terminal end of said tongue, said levers including an angular lug flanked by spaced lateral side lugs, said angular lug being normally disposed in the lowermost portion of said diverging grooves for preventing angular movement of said plates due to pressure of said resilient side walls, movement of said levers in a horizontal position about the terminal ends of said tongues causing the angular lugs to move into a shallow portion of said diverging grooves and permitting said resilient side walls to open said ring halves.




**References Cited** in the file of this patent

UNITED STATES PATENTS

| | | |
|---|---|---|
| 840,949 | Mendenhall | Jan. 8, 1907 |
| 919,497 | Trussell | Apr. 27, 1909 |
| 1,876,569 | Carpenter | Sept. 13, 1932 |
| 2,030,473 | Shade | Feb. 11, 1936 |
| 2,061,676 | Shade | Nov. 24, 1936 |
| 2,386,024 | Williams | Oct. 2, 1945 |
| 2,498,902 | Segal | Feb. 28, 1950 |
| 2,552,076 | Wedge | May 8, 1951 |
| 2,950,719 | Lyon | Aug. 30, 1960 |