

May 8, 1951

F. D. WEDGE
LOOSE-LEAF BINDER

2,552,076

Filed Dec. 29, 1948

2 Sheets-Sheet 1

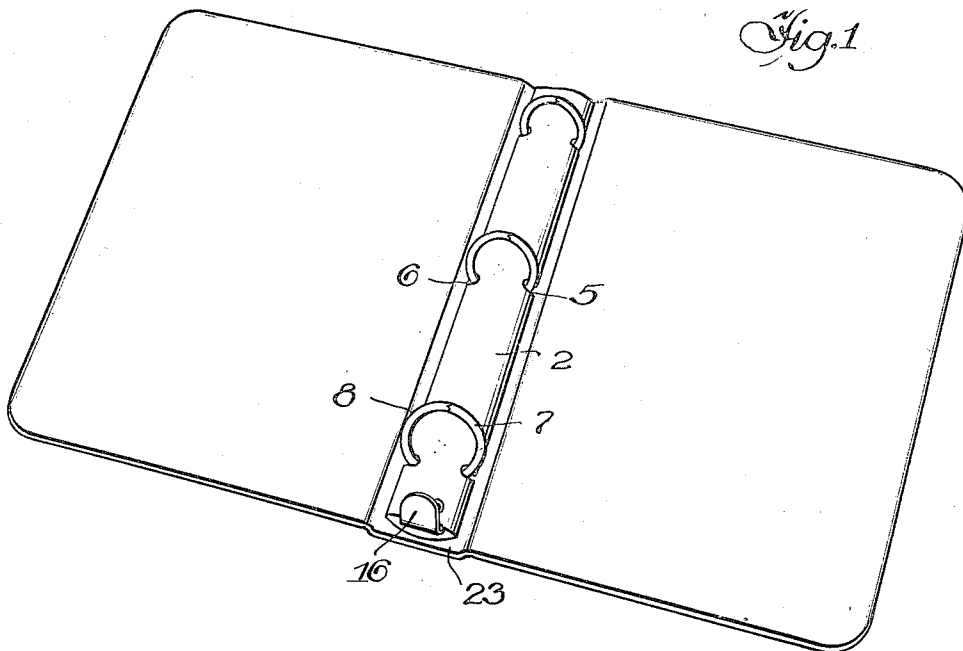


Fig. 2

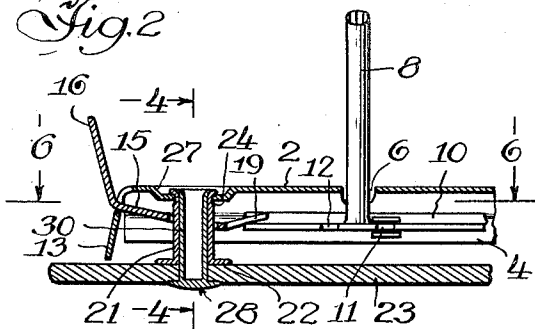


Fig. 3

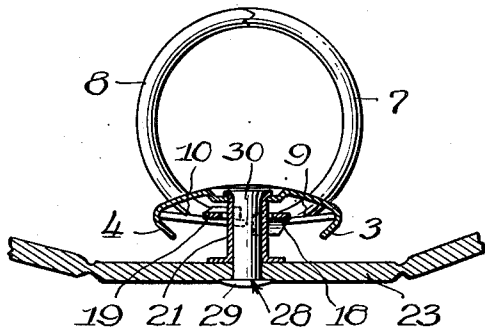
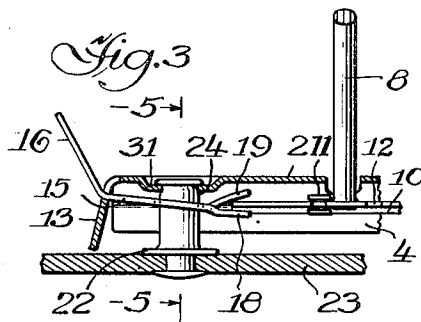
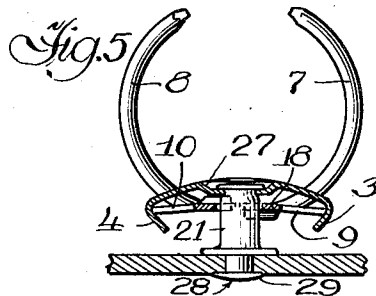


Fig. 4



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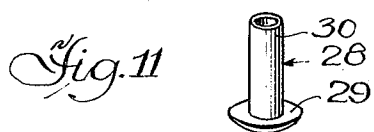
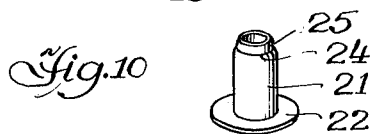
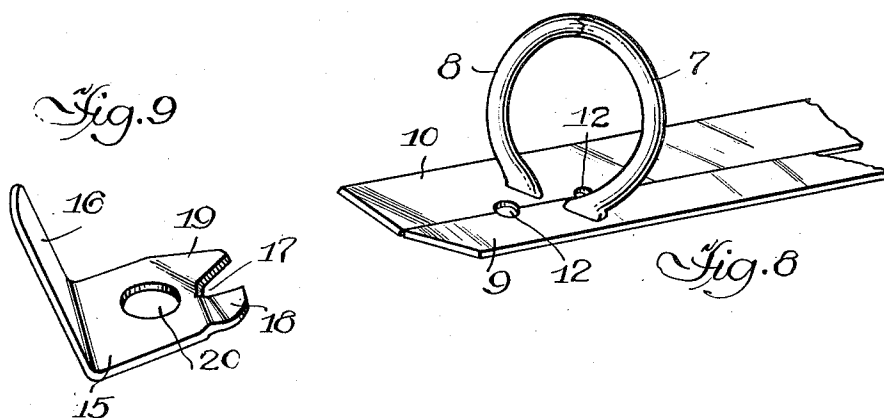
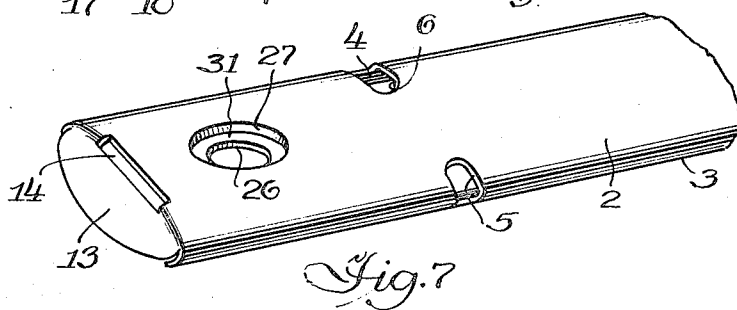
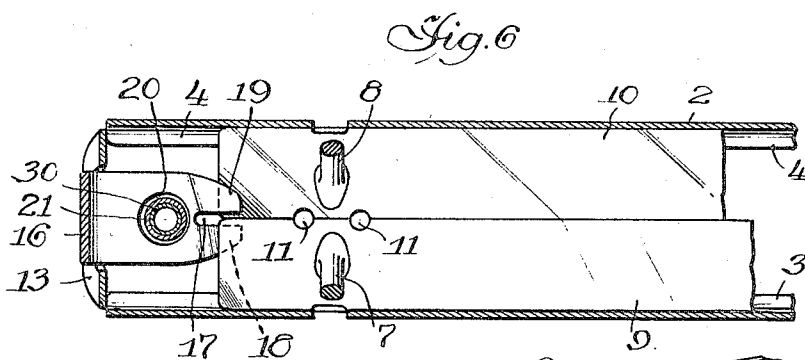
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2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

2,552,076

LOOSE-LEAF BINDER

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Application December 29, 1948, Serial No. 67,788

1 Claim. (Cl. 129—24)

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This invention relates to a loose leaf binder, and particularly to a trigger for opening and closing the sheet retaining rings.

It is an object of my invention to provide a trigger that will operate efficiently to open or close the rings of a loose leaf binder. It is a further object of my invention to provide a trigger that is inexpensive to manufacture and to assemble in the loose leaf binder. It is a further object of my invention to provide a trigger strong enough to open or close the rings from one end of the binder. Other objects of my invention will become apparent upon reading the following description, in conjunction with the accompanying drawings, in which:

Figure 1 is a perspective view of a loose leaf binder embodying the invention, shown with the covers in open position;

Figure 2 is a fragmentary longitudinal sectional view, through one end of the loose leaf binder, showing the parts in the positions assumed when the sheet retaining rings are in closed position;

Figure 3 is a view, similar to Figure 2, showing the parts in the positions assumed when the sheet retaining rings are in open position;

Figure 4 is a cross sectional view, taken along the line 4—4 of Figure 2;

Figure 5 is a cross section view, taken along the line 5—5 of Figure 3;

Figure 6 is a fragmentary longitudinal sectional view, taken along the line 6—6 of Figure 2;

Figure 7 is a fragmentary perspective view of a cover plate adapted to fit over the ring carrying plates and having a slot through which one end of the trigger projects;

Figure 8 is a fragmentary perspective view of the ring carrying plates in side by side relationship;

Figure 9 is a detail perspective view of the trigger;

Figure 10 is a detail perspective view of the hollow stud on which the trigger is impaled; and

Figure 11 is a detail perspective view of the rivet which passes through the hollow stud and secures the metal to the cover.

In the drawings, the reference numeral 2 indicates a cover plate having opposite longitudinal edges 3 and 4 turned downwardly and inwardly. The cover plate is provided with a plurality of pairs of transversely aligned apertures 5 and 6 through which mating ring sections 7 and 8 project. The ring sections 7 and 8 are swaged into flat plates 9 and 10, respectively, which are arranged in the cover plate in side by side relationship. The outer edges of ring carrying plates

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9 and 10 are held against the edge portions 3 and 4, respectively. The inner edges of plates 9 and 10 are held in abutting relationship by means of a plurality of buttons 11 fitting in apertures 12 formed by notching matching recesses in the inner edges of the plates. The buttons permit a toggle movement of the plates and hold the inner edges in the abutting relationship in either down position, when the ring sections are closed, or in up position, when the ring sections are open.

The end sections of the cover plate are turned downwardly, as indicated at 13. The side edges of the end sections are shaped to conform to the curvature of edge portions 3 and 4 to form a neat closure for the ends. A slot 14 extends transversely of the cover plate at its junction with one end portion 13. Although slot 14 is shown at only one end of the cover plate it is obvious that if it is desired to provide the loose leaf binder with two triggers a similar slot will be provided at the opposite end. If only one trigger is provided it doesn't make any difference which end the trigger is mounted in, as long as the trigger and slot are both at the same end of the metal.

The trigger comprises a body portion 15 and a finger portion 16 bent out of a strip of flat stock. The angle between portions 15 and 16 is preferably obtuse. The free end of the body portion is slotted, as indicated at 17, the ends 18 and 19 being bent downwardly and upwardly, respectively. When the trigger is positioned with its finger portion 16 extending through slot 14, the end 18 engages the underside of the end of plate 9, and the end 19 engages the upper surface of the end of plate 10. The end 18 is sufficiently strong to move the plate 9 from its lowermost position to its uppermost position when finger portion 16 is pressed outwardly, and the end 19 is strong enough to move the plate 10 from its uppermost position to its lowermost position when finger portion 16 is moved inwardly. When either plate 9 or 10 is moved the buttons 11 cause the other plate to be moved with it so that the plates retain their abutting relationship.

The body portion 15 of the trigger is provided with an aperture 20 large enough to fit loosely on a hollow stud 21. The bottom of stud 21 is provided with a flange 22 adapted to seat on the inside surface of the cover 23 and the upper end is provided with a shoulder 24. The portion 25 above shoulder 24 is of smaller diameter and fits snugly in an aperture 26 formed in the cover plate. Aperture 26 is countersunk, as indicated at 27. A rivet 28 extending through the cover 23 has a flat head 29 flush against the outer sur-

face of the cover and its shank 30 extending through the hollow stud 21. The shank 30 is slightly smaller in diameter than the portion 25 of the hollow stud and projects a short distance thereabove. The top edges of the hollow stud 21 and the rivet 28 are bent over in a single operation and the edge of the hollow stud engages the top surface of a flange 31 extending circumferentially of aperture 26. The edge of the rivet lies over the edge of the hollow stud but does not extend above the cover plate 2. The shoulder 24 supports the circumferential flange 31 during the riveting operation and prevents collapse of the cover plate. This protection against collapse of the cover plate during the riveting operation is necessary not only to preserve the appearance of the binder, but to maintain sufficient working space for the trigger which must move vertically on the hollow stud to open or close the rings.

Although I have described a preferred embodiment of my invention in considerable detail, it will be understood that the description is intended to be illustrative, rather than restrictive, as many details may be modified or changed without departing from the spirit or scope of my invention. Accordingly, I do not desire to be restricted to the exact structure described, except as limited by the appended claim.

I claim:

In a loose leaf binder, a pair of ring carrying

plates arranged in side by side relationship with a toggle joint therebetween, a plurality of mating ring sections mounted on each of said plates, and a trigger pivotally mounted adjacent one end of said plates, one end of said trigger being bifurcated with one bifurcation engaging the top surface of one of said plates adjacent its inner longitudinal edge, and the other bifurcation engaging the underside of said other plate adjacent its inner longitudinal edge, said bifurcated end being pivotally movable in a vertical plane, downward movement of said first mentioned bifurcation being effective to move the inner longitudinal edges of said ring carrying plates downwardly, and upward movement of said second mentioned bifurcation being effective to move the inner longitudinal edges of said ring carrying plates upwardly.

FRED D. WEDGE.

REFERENCES CITED

The following references are of record in the file of this patent:

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