

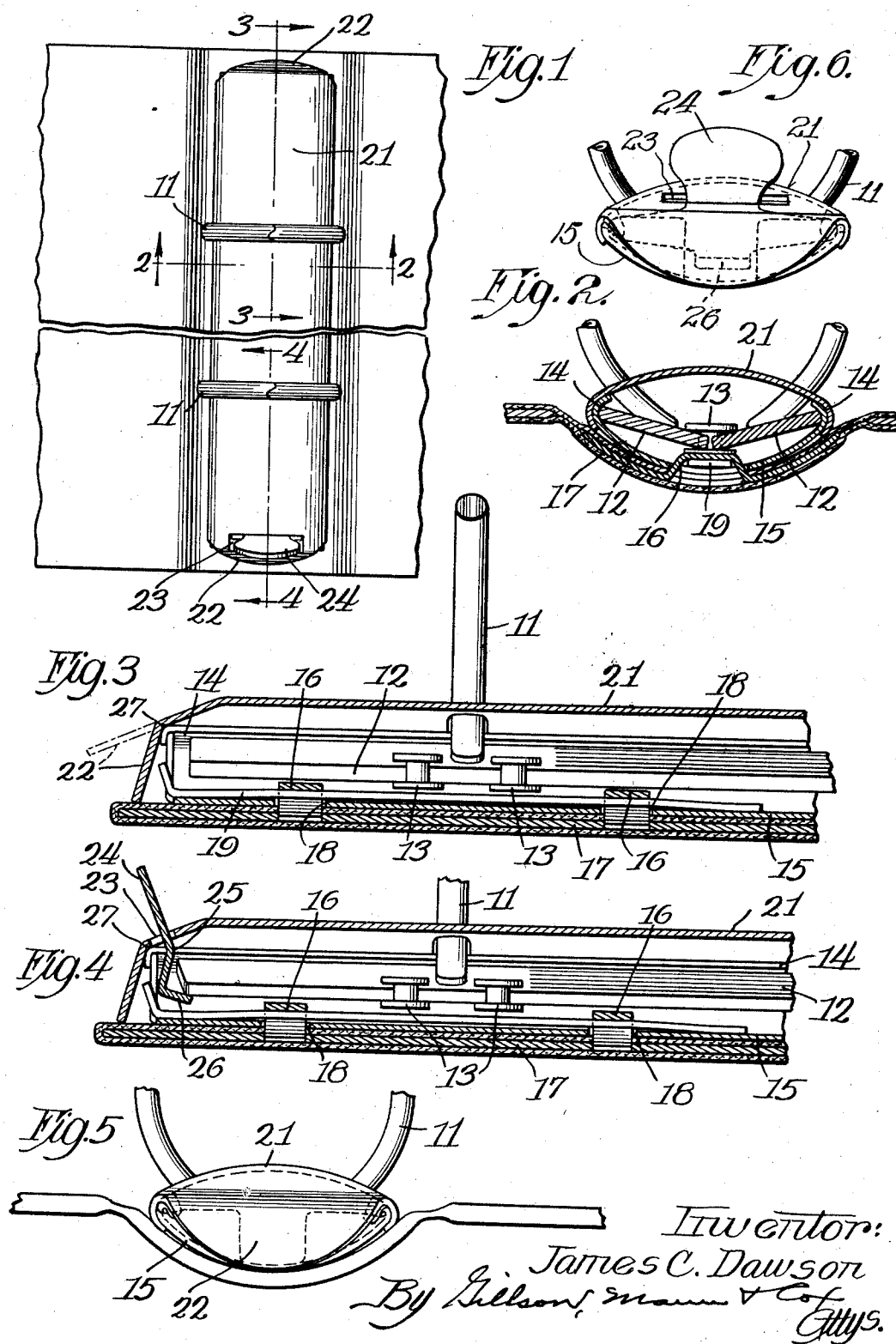
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J. C. DAWSON

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LOOSE LEAF BINDER MECHANISM

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Inventor:
James C. Dawson
By Nelson, Mann & Co.
Attys.

UNITED STATES PATENT OFFICE

JAMES C. DAWSON, OF WEBSTER GROVES, MISSOURI, ASSIGNOR TO ELMA N. DAWSON,
OF WEBSTER GROVES, MISSOURI

LOOSE LEAF BINDER MECHANISM

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The objects of the invention are to provide a closure for the end of the loose leaf mechanism, which produces a neat appearance and which at the same time will serve as a shield and retainer, preventing the dislodgment of the anchoring key.

These and other objects and advantages will become apparent from the specification and the appended drawing, in which

Fig. 1 illustrates a broken top view of the apparatus; the upper end of the binder illustrates its appearance when the booster levers are not provided, and the lower portion illustrates the appearance when booster levers are provided;

Fig. 2 is a transverse section of the device along the line 2—2 of Fig. 1;

Fig. 3 is a longitudinal section of one end of the device along the line 3—3 of Fig. 1;

Fig. 4 illustrates a longitudinal section along the line 4—4 of Fig. 1; and

Fig. 5 illustrates an end view of the device when not equipped with booster levers and as illustrated in the upper portion of Fig. 1.

Fig. 6 illustrates an end view of the device when equipped with booster levers and as illustrated in the lower section of Fig. 1.

With reference to the figures, the paper-holding arches 11 are mounted upon toggle plates 12. The toggle plates are maintained in articulated relationship by the double-headed studs 13 and are pressed against each other by being held on their outer edges by the hooked margins 14, 14 of the spring base plate 15. Loops, catches or hooks 16 are struck up from the backing plate 17 and extend through apertures 18 cut in the spring base plate 15. A key 19 is then inserted above the spring plate and beneath the loops holding the binder in place. The cover plate 21 is snapped over the device to present a pleasing and a finished appearance.

for the key so that it will not be discovered or withdrawn. Each end of the cover plate bears a tongue 22 which may be scored upon the under side at 27. After the parts are assembled and the key inserted, the tongue is depressed and bends down neatly along the line 27. The key is thus retained by the cover and masked behind it. The tongue also forms a complete end closure for the binder mechanism, since the margins of the tongue are forced into contact with the fabric of the back.

When I desire to equip such a binder with a "booster" or operating lever, I cause a slot 23 to be cut transversely across the cover plate 21 adjacent the ends. The slot gives clearance to one arm 24 of the operating lever 25. Preferably, the arm 24 is given somewhat of a button shape so that it may be more easily pushed by the thumb. I also prefer to fulcrum the lever 25 upon the hooked margins 14 of the spring base plate 15. This is illustrated in longitudinal section in Fig. 4 and in the end view, Fig. 6, where it will be seen that the operating lever 25 is spaced apart from the bottom of the spring base plate 15. Ample clearance is thus given to the "booster" arm 26 which engages both of the toggle plates 12, 12.

When the arm 24 is pressed, the toggles 12 are forced upwards and the arches fly open.

It has been found in experience that the keys are sometimes thoughtlessly removed, allowing all the papers in the binder to be removed without disturbing the appearance of the cover. The mask prevents this, but to make the removal of the binder mechanism more difficult, it is frequently advisable to use a straight piece for the key 19 instead of the angle piece illustrated. When a flat bar is used and the guard tongue 22, as shown, acts as a shield, it is extremely difficult to release the binder mechanism from the back.

What I claim, therefore, is:

1. In a device of the class described, the combination of a pair of toggle members articulated at their adjacent edges, a concave resilient plate having an opening in its intermediate portion, flanges on the resilient plate pivotally engaging the remote edges of the toggle members, a back having a loop projecting through the opening in the resilient plate, a key inserted through the loop above the resilient plate, and a cover plate enclosing the binder mechanism provided with a tongue, the end of which is bent down to form a substantially linear edge at the bend, and forms the end piece of the mechanism and prevents the dislodgment of the retaining key.

2. In a device of the class described, a pair of toggle members articulated at their adjacent edges, a concave spring plate having flanges yieldingly engaging the remote edges of the toggle members, a cover provided with a transverse slot, an operating lever having a thumb arm extending outwardly through said slot, said lever extending across the spring plate in spaced relation to its intermediate portion and fulcrumed on its side portions, a projection on the operating lever beneath the toggle members and adapted to urge them upwardly when the thumb arm of said lever is rocked, a back beneath the spring plate having a loop extending upwardly through and above it, a key above the spring plate and extending through the loop, and a tongue on the cover bent to form an end-piece for the binder mechanism and serve as a retainer for the key.

3. In a device of the class described, the combination of a pair of toggle members articulated at their adjacent edges, a concave resilient plate having an opening in its intermediate portion, flanges on the resilient plate pivotally engaging the remote edges of the toggle members, a back having a loop projecting through the opening in the resilient plate, a key inserted through the loop, a cover plate enclosing the mechanism provided with a transverse slot, an operating lever extending through the transverse slot in the cover plate and fulcrumed upon the resilient plate at either side of the key, and a tongue extending from said cover plate and pressed against the back to form a mask and retainer for said key.

4. In a loose leaf binder, a back, a binder mechanism, means including a key adapted to hold the back and mechanism in position, a cover for the mechanism, the end closure of which is adapted to form a mask for the retaining key to conceal the key and to prevent its withdrawal and the consequent disassembly of the binder.

5. In a loose leaf binder, a binder mechanism, a back, means for securing the mechanism to the back including a longitudinal

key, a cover for the mechanism having a transversely scored tongue bent along the score forming an end closure and masking the key.

6. In a loose leaf binder, a binder mechanism, a back, means for securing the mechanism to the back including a longitudinal key, a convex cover for the mechanism having a tongue bent downwardly along a substantially straight line to form a closure for the end of the mechanism and presenting a continuous smooth surface.

7. In a loose leaf binder mechanism including means adapted to support binder rings in open or closed position mounted on a base plate having hooked edges, the combination of an operating lever for said means having trunnions bearing against said hooked edges, an arm adapted to operate said means, and a thumb arm with a cover plate claspings said hooked edges provided with a slot to receive said thumb arm and having a tongue bent down to close the end of the structure behind said operating lever.

8. The method of manufacturing a loose leaf binder which includes striking up a catch from a backing plate, building the backing plate into a back in such a manner that said catch protrudes from the inside of the back, perforating a base plate, mounting a pair of toggle members on the base plate, assembling a cover plate with the base plate and toggle members, assembling to the back the assembly that includes base plate, toggle members and cover plate by passing said catch through the base plate perforation, inserting a key under said catch to secure the assembly to the back, and bending the end of said cover plate down to mask the key.

9. The method of fabricating a loose leaf binder which comprises forming a catch on the inner side of a backing plate, building the backing plate into a back while allowing said catch to protrude, forming a perforation in a base plate to fit the catch, mounting a pair of toggle members on the base plate, applying a cover plate over the toggle members and enclosing the edges of the base plate, fitting the assembly that includes base plate, toggle members and cover plate into place on the back, securing the parts together by passing a key under said catch, and bending down the end of said cover plate to mask the key.

10. A loose leaf binder mechanism assembled complete for attachment to a back, having a base plate with a perforation therein and adapted to be applied to a back with an interior projecting catch to fit said perforation, and a cover plate enclosing the edges of the base plate having a tongue which is adapted to be bent down after

the mechanism has been placed on the back and a key inserted on top of the base plate and through the catch, so that the key will be masked.

5 11. The method of assembling a loose leaf binder mechanism, comprising an apertured base plate and a cover plate, with a back having an upstanding catch, that consists in fitting the base plate over the catch, in-
10 serting a retaining key under the catch and over the base plate, and bending down the end of the cover plate to mask the key.

In testimony whereof I affix my signature.

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JAMES C. DAWSON.

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