

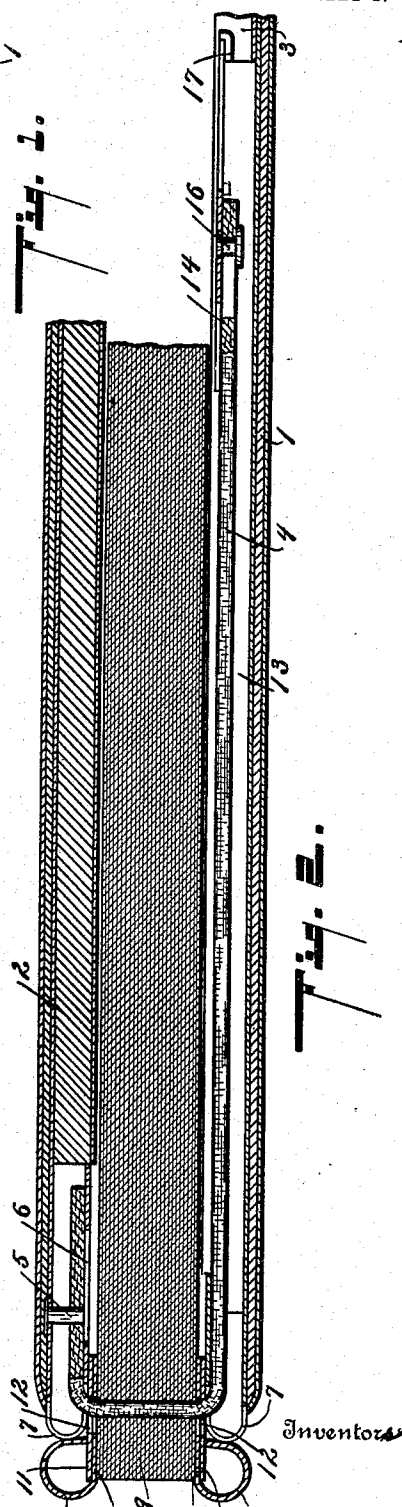
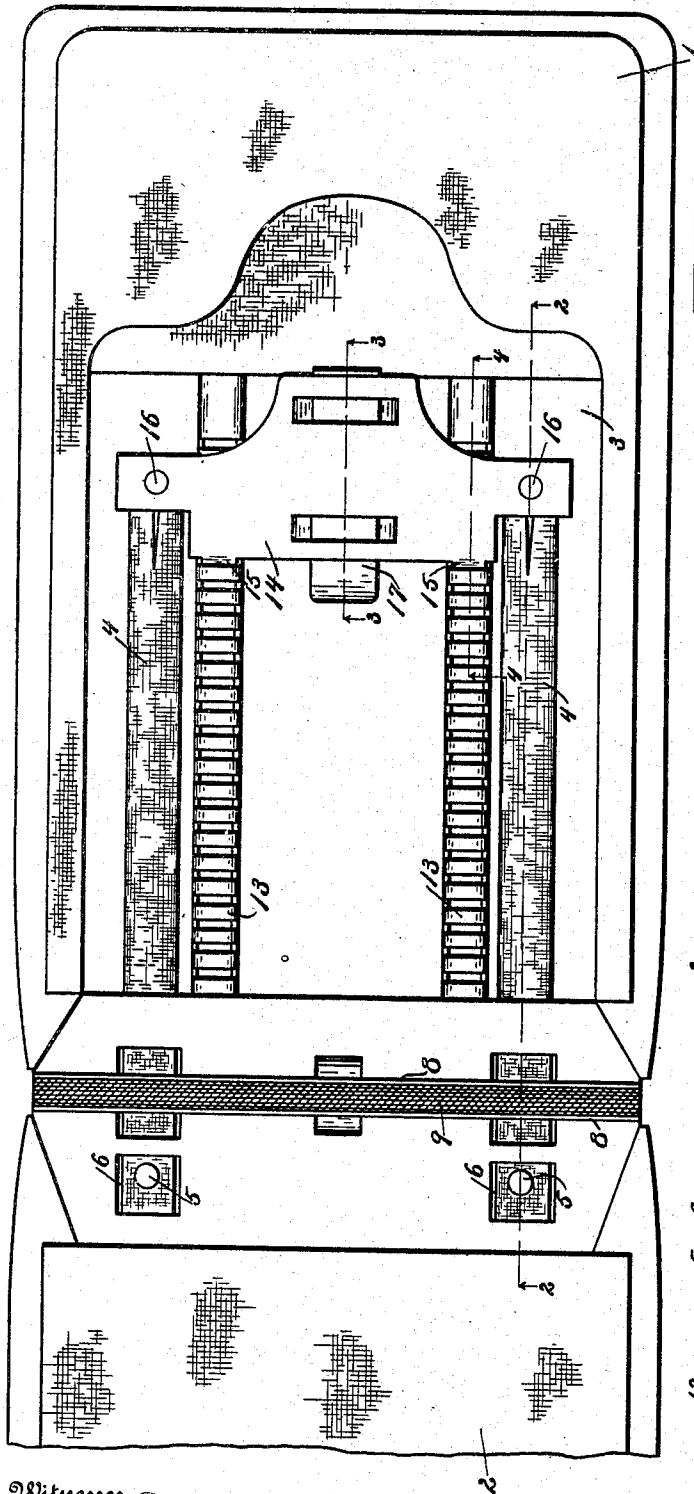
G. P. WIGGINTON & F. W. HODGES.
BINDER.

APPLICATION FILED JULY 28, 1909.

941,482.

Patented Nov. 30, 1909.

4 SHEETS—SHEET 1.



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4 SHEETS—SHEET 2.

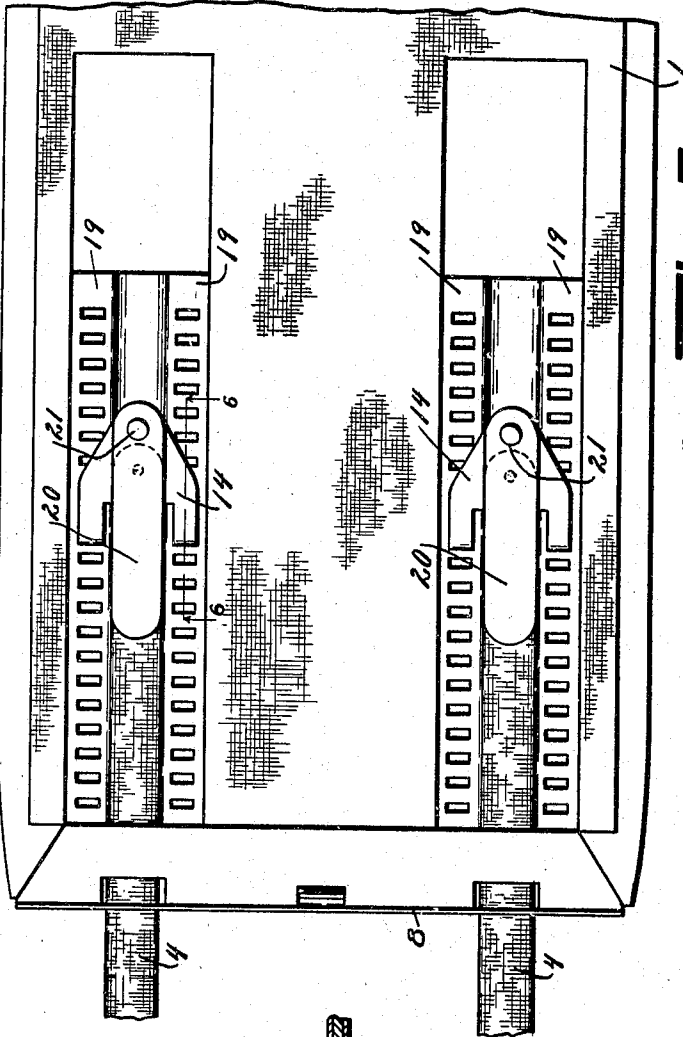


Fig. 5.

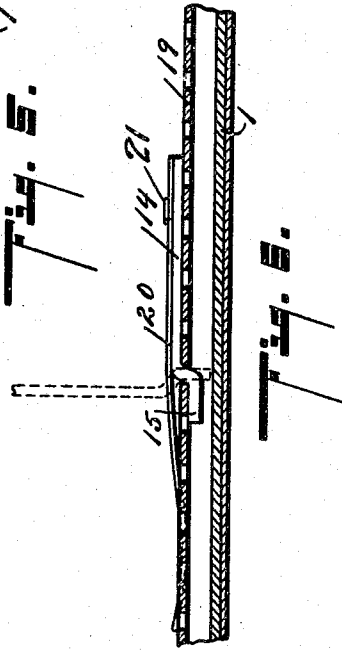


Fig. 6.

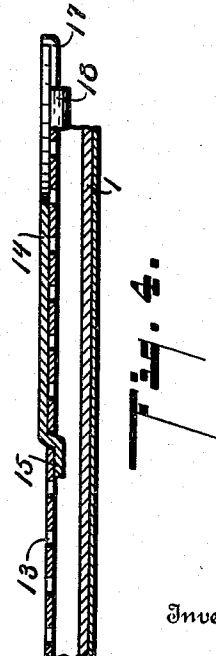


Fig. 4.

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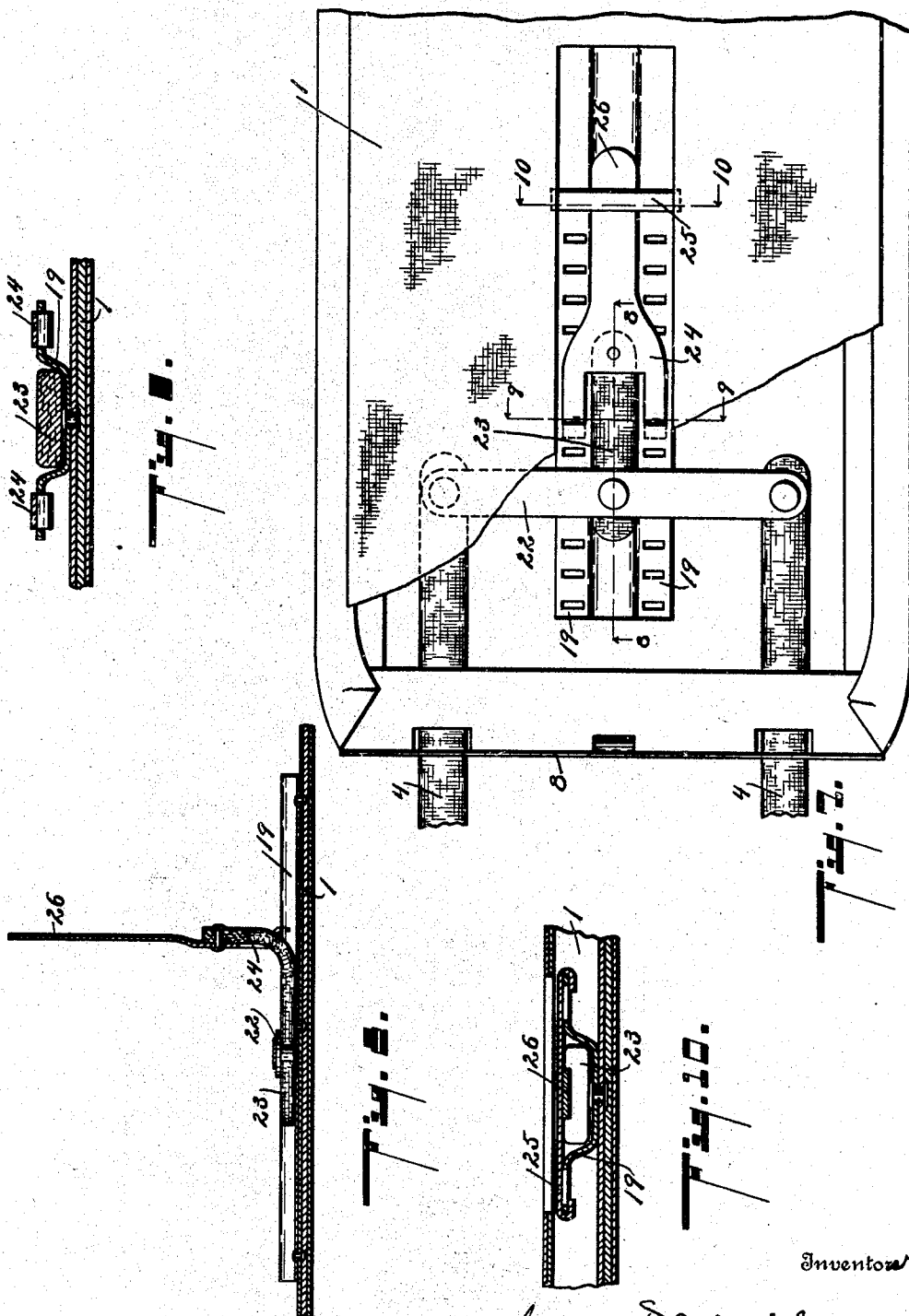
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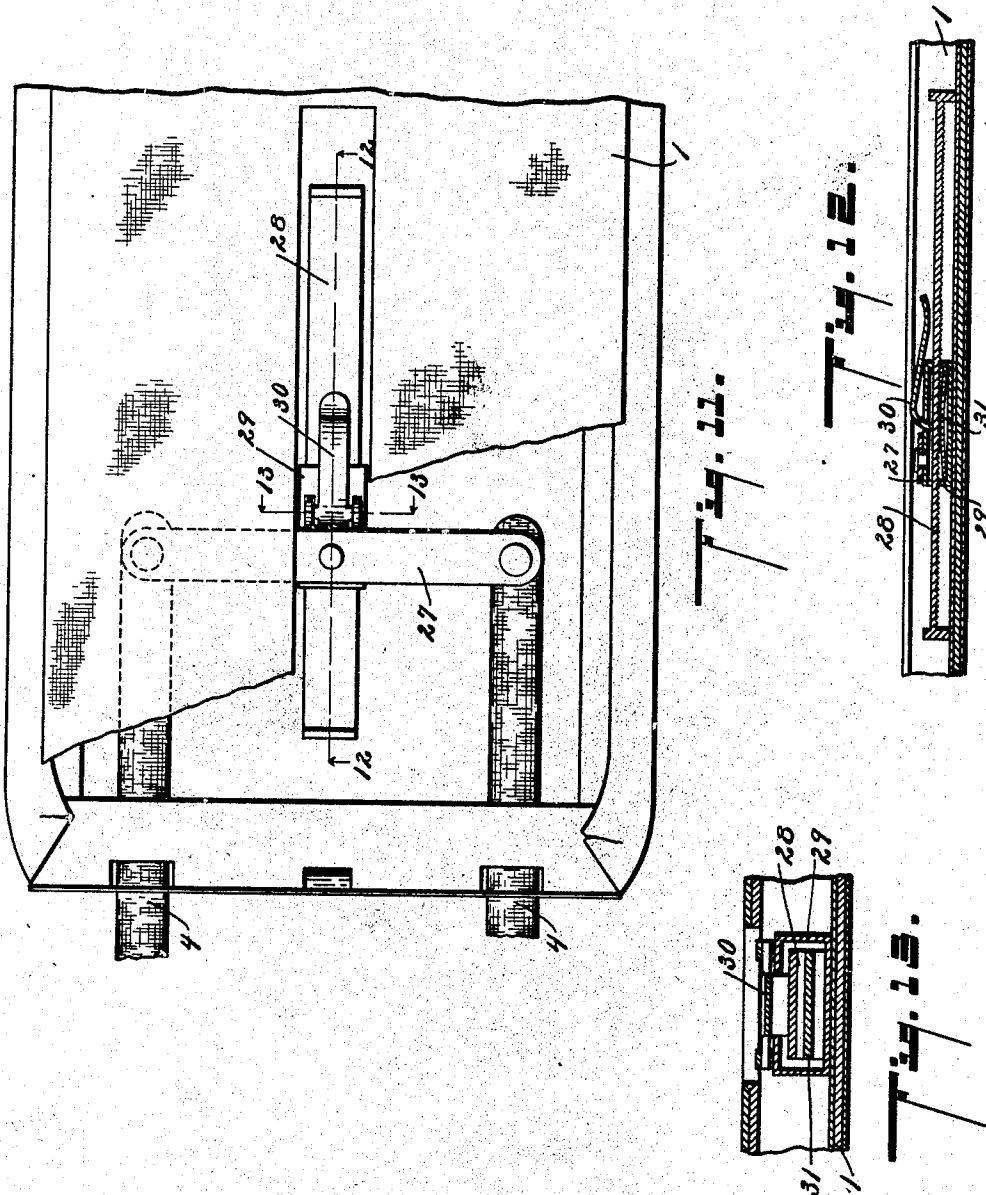
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4 SHEETS—SHEET 4.



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UNITED STATES PATENT OFFICE.

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BINDER.

941,482.

Specification of Letters Patent.

Patented Nov. 30, 1909.

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To all whom it may concern:

Be it known that we, GEORGE P. WIGGINTON and FRANK W. HODGES, citizens of the United States, residing at Kalamazoo, Michigan, have invented certain new and useful Improvements in Binders, of which the following is a specification.

This invention relates to improvements in temporary binders or loose sheet holders.

The main objects of our invention are: First, to provide an improved temporary binder or loose sheet holder which may be quickly adjusted to permit the insertion or removal of the sheets or leaves. Second, to provide an improved temporary binder or loose sheet holder which is very simple and economical in structure. Third, to provide an improved temporary binder or loose sheet holder which is simple in structure and is, at the same time, of very large capacity and is adapted to effectively hold any number of sheets, from one up to its full capacity.

Further objects, and objects relating to structural details, will definitely appear from the detailed description to follow.

We accomplish the objects of our invention by the devices and means described in the following specification. The structure described constitutes one effective embodiment of our invention. Other embodiments would be readily devised by those skilled in the art.

The invention is clearly defined and pointed out in the claims.

A structure constituting an effective and preferred embodiment of the features of our invention is clearly illustrated in the accompanying drawing, forming a part of this specification, in which:

Figure 1 is a detail inside plan of a structure embodying the features of our invention, sheets or leaves being indicated in conventional form therein. Fig. 2 is an enlarged detail longitudinal section, taken on a line corresponding to line 2-2 of Fig. 1, of the binder in its closed position. Fig. 3 is an enlarged detail section, taken on a line corresponding to line 3-3 of Fig. 1, showing details of the means for adjustably securing the cords. Fig. 4 is an enlarged detail section, taken on a line corresponding to line 4-4 of Fig. 1, showing further details of the means for adjustably securing the binding cords. Fig. 5 is a detail inside plan of a modified construction in which

each binding cord is provided with means permitting independent adjustment. Fig. 6 is an enlarged detail section, taken on a line corresponding to line 6-6 of Fig. 5. Fig. 7 is an inside detail plan of a still further modification of the means for adjustably securing the binding cords. Fig. 8 is an enlarged detail longitudinal section, taken on a line corresponding to line 8-8 of Fig. 7, the parts being shown in process of adjustment. Fig. 9 is an enlarged detail section, taken on a line corresponding to line 9-9 of Fig. 7. Fig. 10 is an enlarged detail section, taken on a line corresponding to line 10-10 of Fig. 7. Fig. 11 is a detail plan of a still further modification of the means for adjustably securing the binding cords. Fig. 12 is an enlarged detail section, taken on a line corresponding to line 12-12 of Fig. 11. Fig. 13 is an enlarged detail section, taken on a line corresponding to line 13-13 of Fig. 11.

In the drawings, similar reference characters refer to similar parts throughout the several views, and the sectional views are taken looking in the direction of the little arrows at the ends of the section lines.

Referring to the drawing, we illustrate our invention as applied to a binder having a pair of covers 1 and 2, the cover 1 being provided with a chamber or cavity 3 to receive the mechanism for adjustably securing the binding cord 4.

The binding cords 4 illustrated are in the shape of flat leather thongs, and are secured to the cover 2 by engaging over studs 5, the binding cords being provided with suitable holes to engage the pins. Above these pins the covers are provided with openings 6 so that the cords can be easily adjusted over the pins. The inner ends of the covers are provided with openings 6 so that the cords can be easily adjusted over the pins. The inner ends of the covers are provided with openings 7, through which the binding cords are arranged. We preferably provide in this connection clamping bars 8 between which the leaves, as 9, are clamped. The clamping bars illustrated are formed of strips of sheet metal having bead-like rolls on their rear edges, which make the clamping bars rigid and also serve to form bearings for the inner curved ends of the covers.

Reinforcing strips 11 are preferably pro-

vided for the clamping bars, the reinforcing strips being in the form of flat metal strips which are suitably secured to the binding strips, the edges of the bead 10 being preferably clamped upon the same.

The holes 12 in the clamping bars are so arranged relative to the holes 7 in the ends of the covers that the clamping bars may move relative to the covers, or the covers relative to the clamping bars, in the opening and closing of the book without varying the tension on the binding cords.

The binding cords are adjustably secured to one of the covers, the securing mechanism preferably consisting of a pair of rack bars 13 having bar-like teeth thereon,—that is, the teeth are formed by slotting the bars which are formed of trough-like pieces of sheet metal having slots cut therein.

The cord-securing member 14 is provided with rack-engaging portions 15, which are offset downwardly therefrom, the member 14 being preferably formed of a strip of sheet metal having tongue-like engaging portions 15 projecting rearwardly and downwardly from the rear edge of the strip, so that the tongues or engaging portions 15 can be engaged with the desired rack teeth and the member 14 swung downwardly, which applies to the binding cords with a lever-like action.

The binding cords are preferably secured to the member 14 by engaging over the downwardly projecting studs 16 thereon, so that the pull of the binding cords, when the securing member is in its adjusted position, tends to retain the member 14 in engagement with the rack.

We preferably provide a lock for positively securing the member 14 in its adjusted position. The lock 17 illustrated in Figs. 1 to 3, is slidably mounted on the member 14, preferably by forming loops 18 thereon, the loops being punched downwardly, so that the lock is supported on the under side, as clearly appears in Fig. 3. When this lock is in its engaging position, its inner end engages the cover, thereby locking the member 14 in engagement by preventing its disengaging movement,—that is, it is held so that it cannot swing up and thus disengage.

By thus arranging the parts, the binder can be quickly adjusted to permit the insertion or removal of the sheets or leaves, and it is quickly clamped up. The mechanism is simple and economical to produce, and at the same time is strong and durable and convenient to use.

In the modified construction shown in Figs. 5 and 6, each binding cord 4 is provided with an adjustable securing member, which operates in substantially the same way as the securing member described. The racks 19 of this structure are arranged in

pairs, each pair being formed of a single piece of sheet metal, the same being substantially as is illustrated in Fig. 9. The lock member 20 of this construction is pivoted at 21 to be swung around in its engaging position, instead of being slidably adjusted as is the lock member illustrated in detail in Fig. 3.

In the modified construction shown in Fig. 7, the binding cords 4 are connected by a cross-piece 22, which is, in turn, connected by the strap 23 to the securing member 24. The lock for the securing member in this construction is in the form of a loop 25, which is slidably mounted on the rack member and adapted to be slipped over the outwardly extending finger piece 26 of the securing member 24, the loop being illustrated in detail in Fig. 10.

In the structure shown in Figs. 11 to 13, the bar 27 is slidably mounted upon the rack 28. This rack is a spring rack and is adapted to be forced into engagement with the side portion 29 of the bar by means of the pivoted lever 30, a spring 31 being arranged in the slide portion 29 of the bar to hold the rack normally out of its engaging position.

We have illustrated the several modifications to show the general adaptability of our improvements. Our invention may be readily adapted to various other styles and forms of binder, but, having thus illustrated its application, we believe such adaptations will be readily understood and accomplished by those skilled in the art to which this invention relates, and, therefore, we do not attempt to further illustrate or describe the same in detail herein.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent, is:

1. In a structure of the class described, the combination with the cover, chambered on its inner side, of a binding cord; a slotted rack member arranged in the said cover chamber; a securing member for said binding cord having a downwardly offset engaging portion on its inner edge, adapted to be engaged in the slots of said rack member, said cord securing member being free from said rack member when its engaging portion is disengaged therefrom; and a lock member slidably mounted on said cord securing member, said lock member being adapted, when in one position, to project inwardly from said cord securing member into engagement with the cover, thereby retaining said cord securing member in engagement with said rack member.

2. In a structure of the class described, the combination with the cover, of a binding cord; a slotted rack member; a securing member for said binding cord having a downwardly offset engaging portion on its

inner edge, adapted to be engaged in the slots of said rack member, said cord securing member being free from said rack member when its engaging portion is disengaged therefrom; and a lock member slidably mounted on said cord securing member, said lock member being adapted, when in one position, to project inwardly from said cord securing member into engagement with the cover, thereby retaining said cord securing member in engagement with said rack member.

3. In a structure of the class described, the combination with the cover, of a binding cord; a slotted rack member carried by said cover; a securing member for said binding cord having a downwardly offset engaging portion on its inner edge, adapted to be engaged in the slots of said rack member, said cord securing member being free from said rack member when its engaging portion is disengaged therefrom; and a lock member adjustably mounted on said cord securing member, said lock member being adapted when in one position, to prevent the rack disengaging movement of said cord securing member.

4. In a structure of the class described, the combination with the cover, of a binding cord; a slotted rack member carried by said cover; a securing member for said binding cord having an engaging portion, adapted to be engaged in the slots of said rack member, said cord securing member being free from said rack member when its engaging portion is disengaged therefrom; and a lock member adjustably mounted on said cord securing member, said lock member being adapted, when in one position, to prevent the rack disengaging movement of said cord securing member.

5. In a structure of the class described, the combination with the cover, of a binding cord; a slotted rack member carried by said cover; a securing member for said binding cord having a downwardly offset engaging portion on its inner edge, adapted to be engaged in the slot of said rack member, said cord securing member being free from said rack member when its engaging portion is disengaged therefrom; and a lock member adapted to prevent the rack disengaging movement of said cord securing member.

6. In a structure of the class described, the combination with the cover, of a binding cord; a slotted rack member carried by said cover; a securing member for said binding cord having an engaging portion, adapted to be engaged in the slots of said rack member, said cord securing member being free from said rack member when its engaging portion is disengaged therefrom; and a lock member adapted to prevent the rack disengaging movement of said cord securing member.

7. In a structure of the class described, the combination with the cover, of a binding cord; a rack member carried by said cover; a securing member for said binding cord having a rack engaging portion thereon, said cord securing member being free from said rack when its rack engaging portion is disengaged therefrom; and a lock member adjustably mounted on said cord securing member, said lock member being adapted when in one position, to prevent the rack disengaging movement of said cord securing member.

8. In a structure of the class described, the combination with the cover, of a binding cord; a rack member carried by said cover; a securing member for said binding cord having a rack engaging portion thereon, said cord securing member being free from said rack when its rack engaging portion is disengaged therefrom; and a lock member adapted to prevent the rack disengaging movement of said cord securing member.

9. In a structure of the class described, the combination with a cover, chambered on its inner side, of binding cords; a plurality of racks having bar-like teeth arranged in the said cover chamber; a securing member for said binding cords having downwardly offset rack-engaging portions on its inner edge, said cord securing member being free from said rack when its rack engaging portions are disengaged therefrom; and a lock member slidably mounted on said cord securing member, said lock member being adapted, when in one position, to project inwardly from said cord securing member into engagement with the cover, thereby retaining said cord securing member in engagement with said racks.

10. In a structure of the class described, the combination with a cover, of binding cords; a plurality of racks having bar-like teeth; a securing member for said binding cords having downwardly offset rack-engaging portions on its inner edge said cord securing member being free from said rack when its rack engaging portions are disengaged therefrom; and a lock member slidably mounted on said cord securing member, said lock being adapted, when in one position, to project inwardly from said cord securing member into engagement with the cover, thereby retaining said cord securing member in engagement with said racks.

11. In a structure of the class described, the combination with a cover, chambered on its inner side, of binding cords; a plurality of racks arranged in the said cover chamber; a securing member for said binding cords having rack-engaging portions thereon, said cord securing member being free from said rack when its rack engaging portions are disengaged therefrom; and a lock member slidably mounted on said cord securing mem-

ber, said locking member being adapted, when in one position, to project inwardly from said cord securing member into engagement with the cover, thereby retaining
5 said cord securing member in engagement with said racks.

12. In a structure of the class described, the combination with a cover, of binding cords; a plurality of racks having rack-engaging portions thereon, said cord securing member for said binding cords having rack-engaging portions thereon, said cord securing member being free from said rack when its
10 said rack engaging portions are disengaged therefrom; and a lock member slidably mounted on said cord securing member, said
15 lock being adapted, when in one position, to project inwardly from said cord securing member into engagement with the cover, thereby retaining said cord securing member in engagement with said racks.

13. In a structure of the class described, the combination with a cover, of binding cords; a plurality of racks having bar-like teeth carried by said cover; a securing member for said binding cords having downwardly offset rack-engaging portions on its
25 inner edge, said cord securing member being free from said rack when its said rack engaging portions are disengaged therefrom; and a lock member adjustably mounted on
30 said cord securing member, said lock member being adapted, when in one position, to retain said cord securing member in engagement with said rack.

14. In a structure of the class described, the combination with a cover, of binding cords; a plurality of racks carried by said cover; a securing member for said binding
35 cords having rack-engaging portions thereon, said cord securing member being free from said rack when its said rack engaging portions are disengaged therefrom; and a
40 lock member adjustably mounted on said cord securing member, said lock member being adapted, when in one position, to retain
45 said cord securing member in engagement with said rack.

15. In a structure of the class described, the combination with a cover, of binding
50 cords; a plurality of racks having bar-like teeth carried by said cover; a securing member for said binding cords having downwardly offset rack-engaging portions on its inner edge, said cord securing member being
55 free from said rack when its said rack engaging portions are disengaged therefrom; and a lock member adapted when in engaging position, to retain said cord securing member in engagement with said rack.

16. In a structure of the class described, the combination with a cover, of binding
60 cords; a plurality of racks carried by said cover; a securing member for said binding cords having rack-engaging portions thereon, said cord securing member being free

from said rack when its said rack engaging portions are disengaged therefrom; and a lock member adapted when in engaging position, to retain said cord securing member in engagement with said rack.

17. In a structure of the class described, the combination with the cover, of a binding
70 cord; a rack member carried by said cover; a securing member for said binding cord having rack-engaging portions thereon, said
75 binding cord being secured to said securing member at a point outwardly from said rack engaging portion whereby stress may be applied to the binding cord by engaging
80 the said cord securing member with said rack and swinging it downwardly; and means for preventing the disengaging movement of said cord securing member.

18. In a structure of the class described, the combination with the cover, of a binding
85 cord; a rack member carried by said cover; and a securing member for said binding cord having rack-engaging portions thereon, said
90 binding cord being secured to said securing member at a point outwardly from said rack engaging portion whereby stress may be applied to the binding cord by engaging
95 the said cord securing member with said rack and swinging it downwardly.

19. In a structure of the class described, the combination with the cover, of a binding
100 cord; a rack member carried by said cover; a securing member for said binding cord having a rack-engaging portion thereon, said
105 binding cord being connected to said securing member so that stress may be applied thereto by engaging said securing member with said rack and swinging it downwardly, said binding cord being connected to said
110 rack engaging portion whereby the stress on the binding cord, when the parts are adjusted, tends to hold the cord securing member in engagement with the rack; and a lock for said securing member.

20. In a structure of the class described, the combination with the cover, of a binding
115 cord; a rack member carried by said cover; and a securing member for said binding cord having a rack-engaging portion thereon, said
120 binding cord being connected to said securing member so that the stress may be applied thereto by engaging said securing member with said rack and swinging it downwardly, said binding cord being connected to said
125 rack engaging portion whereby the stress on the binding cord, when the parts are adjusted, tends to hold the cord securing member in engagement with the rack.

21. In a structure of the class described, the combination with the cover, of a binding
130 cord; a rack member carried by said cover; a securing member for said binding cord having a rack-engaging portion thereon, said

binding cord being connected to said securing member so that the stress on the binding cord, when the parts are adjusted, tends to hold the cord securing member in engagement with the rack; and a lock for said securing member. 15

22. In a structure of the class described, the combination with the cover, of a binding cord; a rack member carried by said cover; and a securing member for said binding cord having a rack-engaging portion thereon, said binding cord being connected to said secur-

ing member so that the stress on the binding cord, when the parts are adjusted, tends to hold the cord securing member in engagement with the rack.

In witness whereof, we have hereunto set our hands and seals in the presence of two witnesses.

GEORGE P. WIGGINTON. [L. s.]
FRANK W. HODGES. [L. s.]

Witnesses:

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F. GERTRUDE TALLMAN.