

R. KRUMMING.
 TEMPORARY BINDER OR LOOSE SHEET HOLDER.
 APPLICATION FILED SEPT. 5, 1911.

1,017,220.

Patented Feb. 13, 1912.

2 SHEETS—SHEET 1.

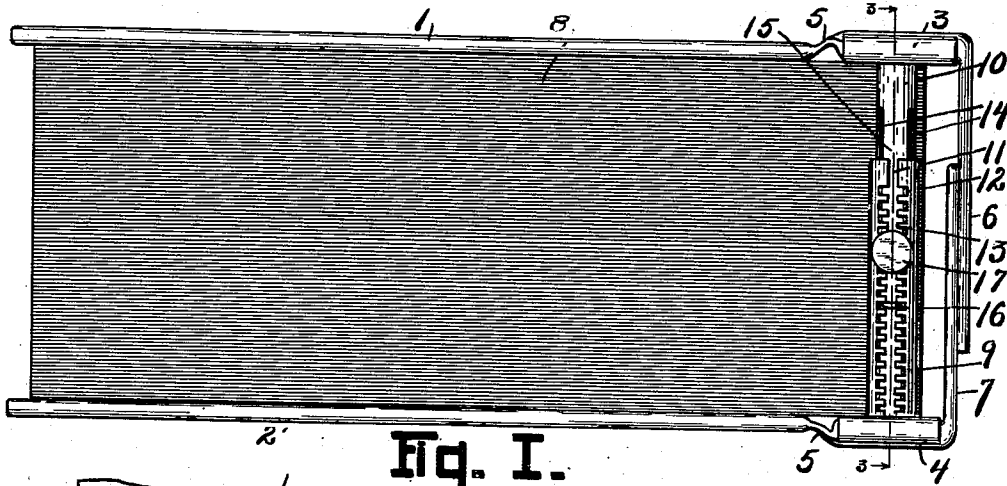


Fig. I.

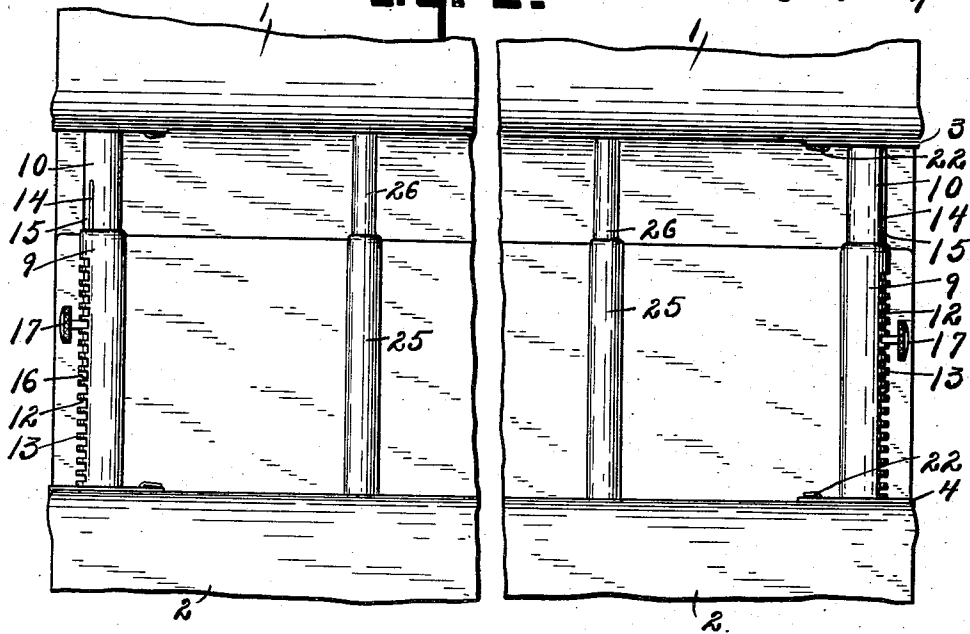


Fig. II.

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2 SHEETS—SHEET 2.

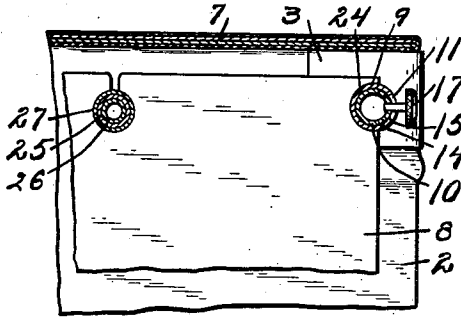


Fig. IV.

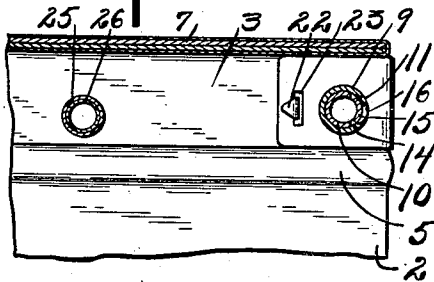


Fig. V.

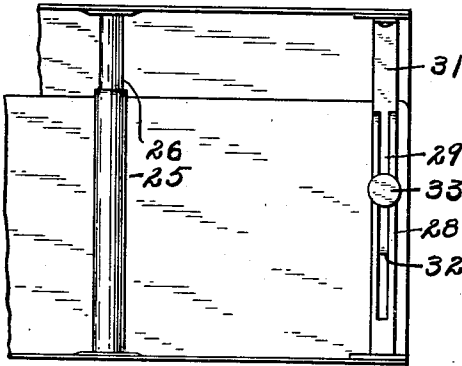


Fig. VII.

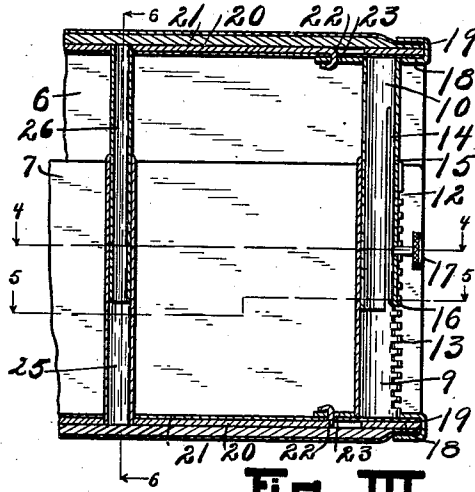


Fig. III.

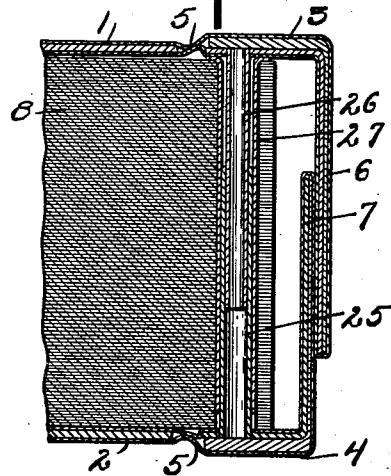


Fig. VI.

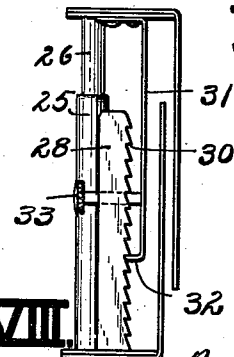


Fig. VIII.

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UNITED STATES PATENT OFFICE.

REINHOLD KRUMMING, OF MILWAUKEE, WISCONSIN.

TEMPORARY BINDER OR LOOSE-SHEET HOLDER.

1,017,220.

Specification of Letters Patent.

Patented Feb. 13, 1912.

Application filed September 5, 1911. Serial No. 647,746.

To all whom it may concern:

Be it known that I, REINHOLD KRUMMING, a citizen of the United States, residing at the city of Milwaukee, county of Milwaukee, State of Wisconsin, have invented certain new and useful Improvements in Temporary Binders or Loose-Sheet Holders; of which the following is a specification.

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

The main objects of this invention are: First, to provide in a temporary binder or loose sheet holder, an improved adjusting mechanism. Second, to provide an improved temporary binder or loose sheet holder of the post type which may be very easily and quickly adjusted to secure the leaves or to permit the removal thereof. Third, to provide an improved temporary binder or loose sheet holder which is very simple and economical in structure and, at the same time, very durable.

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

I accomplish the objects of my invention by the devices and means described in the following specification.

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

A structure which is a preferred embodiment of my invention is clearly illustrated in the accompanying drawing, forming a part of this specification, in which:

Figure I is a side view of a structure embodying the features of my invention, a quantity of sheets or leaves being shown therein. Fig. II is a detail inside view with the sheets or leaves shown in Fig. I omitted. Fig. III is a detail transverse section showing details of the adjusting mechanism taken on a line corresponding to line 3—3 of Fig. I, the sheets being omitted. Fig. IV is a detail horizontal section through the adjusting mechanism, taken on a line corresponding to line 4—4 of Fig. III. Fig. V is a detail horizontal section through the adjusting mechanism taken on a line corresponding to the broken line 5—5 of Fig. III. Fig. VI is a vertical longitudinal section through one of the binding posts, taken on a line corresponding to line 6—6 of Fig. III. Fig. VII is a detail view corresponding to that of Fig. II, of a modified construction, the covers of the binder being omitted. Fig.

VIII is an end view of the structure shown in Fig. VII.

In the drawing, 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, the structure illustrated is provided with a pair of covers 1 and 2. The binding members 3 and 4 are secured to the covers 1 and 2 respectively, by means of flexible hinge connections 5. The binding members 3 and 4 are provided with inwardly projecting overlapping back members or portions 6 and 7 respectively, which form the back of the binder. The binding members 3 and 4 are adjustably connected, the adjusting means in the structure illustrated in Figs. I to VI being adapted to serve as binding posts for the sheets or leaves 8 as well as the adjusting means.

The adjusting mechanism of the structure shown in Figs. I to VI inclusive, consists of the tubular outer back members 9 which are mounted on one of the binding members at the ends thereof, and the tubular inner pawl members 10 which are mounted at the ends of the other binding member to telescope with the members 9. These members 9 are provided with longitudinal slots 11 extending from their outer ends. These slots are disposed on the outer sides of the members 9. Transverse kerfs 12 extending across the slots 11, provide a double series of teeth 13. The members 10 are provided with parallel longitudinal slits 14 which extend from the outer ends of the members forming spring pawls 15, the ends of the pawls being turned into tooth engaging portions or pallets 16. These pawls and their engaging portions or pallets 16 are of such width that the pawls engage the teeth at each side of the slot. The lower ends of the engaging or pallet portions of the pawls are beveled upwardly so that the pawls slip over the teeth on the inward movement. The finger pieces 17 are mounted on the pawls 15 so that they project through the slots 11 in the members 9 when the members 10 are telescoped therewith. The members 10 preferably have a close sliding fit in the members 9 so that the members are effectively guided and supported. The pawls when the parts are assembled, are protected and supported so that they are not likely to be injured by

careless handling or manipulation. The adjusting members 9 and 10 are mounted on the binding members by means of the plates 18 having flanges 19 at their outer ends 5 which are folded over the ends of the clamping member pieces 20 and 21, the clamping member pieces 20 being provided with tongues 22 which are arranged through slits 23 provided therefor in plates 18. (See 10 Fig. III.) This provides a very secure attaching means for the members 9 and 10, and enables the very rapid assembling of the parts. Further, the posts can be readily detached should occasion require for purposes of renewal, repair or the like. 15

I preferably provide binding posts disposed intermediate of the adjusting members as shown in the drawing, although the adjusting members in the structure illustrated in Figs. I to VI are also adapted as 20 leaf engaging or binding posts, the sheets or leaves being provided with notches 24 adapted to receive the same. (See Fig. IV).

The intermediate binding posts are of the 25 well known type consisting of the outer members 25 mounted on one of the binding members, and inner members 26 mounted on the other binding member to telescope therewith. In practice, I preferably also use, the 30 sleeves 27 adapted to telescope over the post 25. These are, however, not an essential and form no part of my present invention.

In the modification shown in Figs. VII and VIII, the adjusting member 28 is provided with a slot 29 and has a series of 35 teeth 30 at each side of the slot. The pawl member 31 is in the form of a spring having an engaging portion or pallet 32 which coacts with both sets of teeth 30, and a finger 40 piece 33 arranged in the slot 27. The pawl member is supported against lateral movement by this arrangement as in the preferred construction, but the preferred construction has certain features of advantage not possessed by this modified construction. 45

With the parts thus arranged the binder is adjusted to clamp the leaves merely by introducing the member 10 into the member 9 and pushing the same down to its clamping 50 position. To release the binder, the finger pieces are pressed inwardly to disengage the pawls and the upper cover with its binding member lifted off. This can be conveniently done by grasping the ends of the binding 55 member 3 between the first or index fingers and pressing upon the finger pieces 17 with the middle fingers. It is found that this is a very convenient way of releasing the binder and separating the binding members. 60 Of course, different operators might prefer different methods.

I have illustrated and described my improved binder in detail in a simple and desirable embodiment. Other modifications 65 other than shown, are possible, but I have

not attempted to illustrate or describe the same herein as the structure disclosed will, it is believed, enable those skilled in the art to apply my invention as may be desired. I desire, however, to be understood as claiming 70 my invention specifically in the form illustrated as well as broadly within the scope of the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is: 75

1. In a binder, the combination with a pair of binding members, a pair of tubular outer members mounted at the ends of one of said binding members and having longitudinal slots in their outer sides extending from their outer ends and transverse kerfs extending across said slots to provide a double series of teeth, a pair of tubular inner members mounted at the ends of the other binding members to telescope with said outer 80 members and having parallel longitudinal slits extending from their outer ends to provide spring pawls, the end of each pawl being turned outwardly to coact with the teeth of the outer post members, and finger pieces on said pawls adapted to project through the slots of said outer members. 85

2. In a binder, the combination with a pair of binding members, a pair of tubular 95 outer members mounted at the ends of one of said binding members and having longitudinal slots in their outer sides extending from their outer ends, the edges of the slots being provided with teeth, a pair of tubular 100 inner members mounted at the ends of the other binding member to telescope with said outer members and slitted longitudinally to provide pawls adapted to coact with the teeth of the outer members, and finger pieces 105 on said pawls adapted to project laterally through the slots of said outer members when said inner members are telescoping therewith.

3. In a binder, the combination with a 110 pair of binding members, tubular outer members mounted on one of said binding members and having longitudinal slots extending from their outer ends, the edges of the slots being provided with teeth, tubular inner 115 members mounted on the other binding member to telescope with said outer members and slitted longitudinally to provide pawls adapted to coact with the teeth of the outer members, and finger pieces on said pawls 120 adapted to project through the slots of said outer members when said inner members are telescoping therewith.

4. In a binder, the combination with a pair of binding members, tubular outer 125 members mounted on one of said binding members and having longitudinal slots extending from their outer ends and provided with teeth, inner members mounted on the other binding member to telescope with said 130

outer members and having pawls adapted to coact with the teeth of the outer post members, and finger pieces on said pawls adapted to project through the slots of said outer members when said inner members are telescoped therewith.

5. In a binder, the combination with a pair of binding members, toothed adjusting members mounted on one of said binding members and having longitudinal slots extending from their outer ends and provided with a series of teeth at each side of the slots, pawl adjusting members coacting with the toothed adjusting members, mounted on the other binding member to telescope with said toothed members, and finger pieces on said pawls adapted to project through the slots of said toothed members when said pawl members are telescoped therewith.

6. In a binder, the combination of an outer tubular member having a longitudinal slot extending from its outer end and transverse kerfs across said slots to provide a double series of teeth, a tubular inner member having parallel longitudinal slits extending from its outer end to provide a spring pawl, the end of the pawl being turned outwardly to coact with the teeth of the outer member, and a finger piece on said pawl adapted to project through the slot of said outer member when said inner member is telescoped.

7. In a binder, the combination of a tubular outer post member having a longitudinal slot extending from its outer end, the edges of the slot being provided with teeth, a tubular inner member slitted longitudinally to provide a pawl adapted to coact with the teeth of the outer post member, and a finger piece on said pawl adapted to project through the slot of said outer member when said inner member is telescoped therewith.

8. In a binder, the combination of an outer tubular member having a longitudinal slot extending from its outer end and transverse kerfs across said slots to provide a double series of teeth, an inner member having a spring pawl adapted to coact with the teeth of the outer member, and a finger piece on said pawl adapted to project through the slot of said outer member when said inner member is telescoped therewith.

9. In a binder, an adjusting means comprising an adjusting member having a longitudinal slot extending from its outer end and provided with a series of teeth at each side of the slot, a pawl member coacting with

the toothed member, and a pawl finger piece on said pawl member projecting through the slot of said toothed member.

10. In a binder, an adjusting mechanism comprising a tubular adjusting member having a longitudinal slot extending from its outer end and provided with teeth, a pawl member adapted to telescope therewith and having a pawl adapted to coact with the teeth thereof, and a finger piece on said pawl adapted to project through the slot of said toothed member when said pawl member is telescoped therewith.

11. In a binder, the combination of a binding member, an adjusting member, and means for mounting said adjusting member on said binding member comprising a plate to which said adjusting member is secured, having a flange at its outer end folded over the end of said binding member, said binding member being provided with a securing tongue engaged in a slot in the inner end of said plate.

12. In a binder, the combination of a body member; a post member; means for mounting said post member on said body member comprising a plate to which said post member is secured, having a flange at its outer end folded over the end of said body member, said body member being provided with a tongue engaged in a slot in said plate.

13. In a binder, the combination of a body member; a post member; means for mounting said post member on said body member comprising a plate having a flange at its outer end embracing the end of said body member, said plate being retained upon said body member by a retaining tongue formed integrally with said body member.

14. In a binder, the combination of a binding member; an adjusting member; means for mounting said adjusting member on said binding member comprising a plate to which said adjusting member is secured, having a flange at its outer end embracing the end of said binding member; and means for securing the inner end of said plate to said binding member.

In witness whereof, I have hereunto set my hand and seal in the presence of two witnesses.

REINHOLD KRUMMING. [L. S.]

Witnesses:

ADA BESWARRICK,
A. USCHISON.