April 23, 1929. E. ABERLE 1,710,331

LOOSE LEAF BINDER

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Fig. 1.

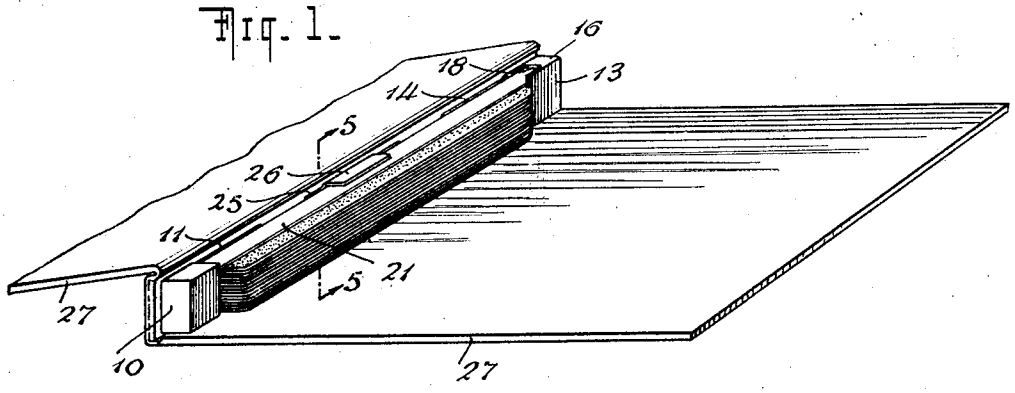


Fig. 2.

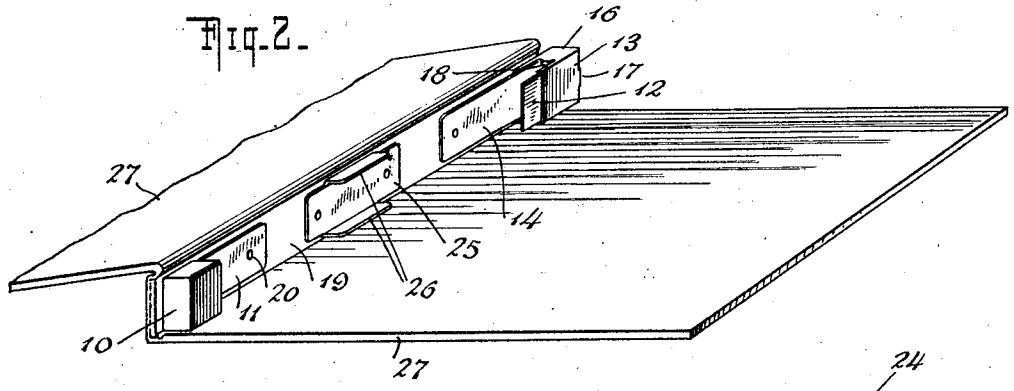


Fig. 3.

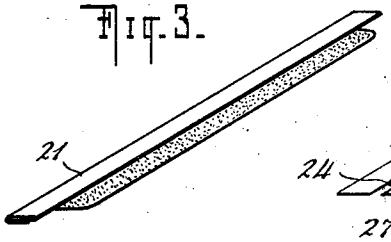


Fig. 4.

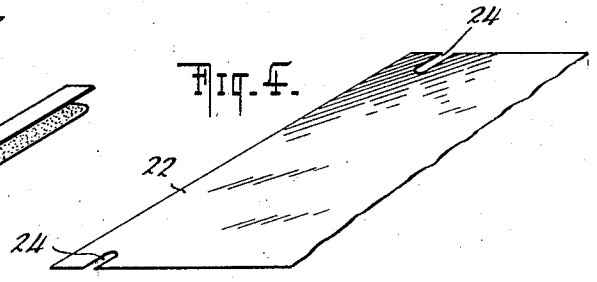
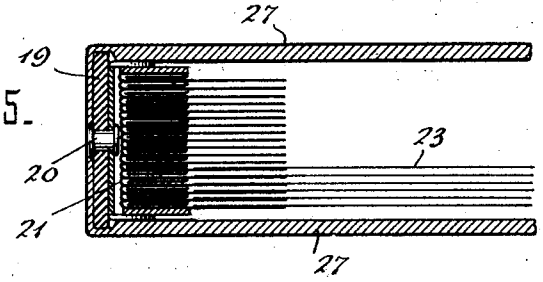


Fig. 5.



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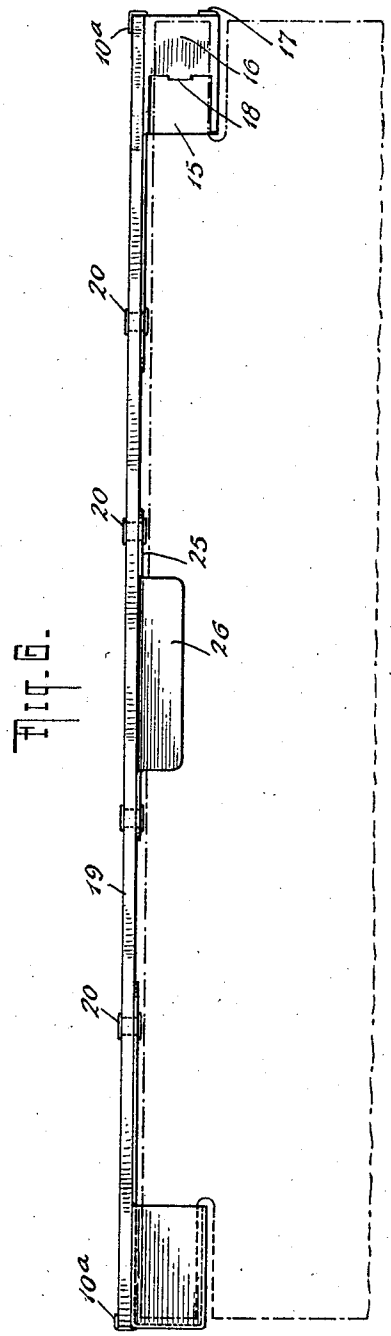


Fig. 6.

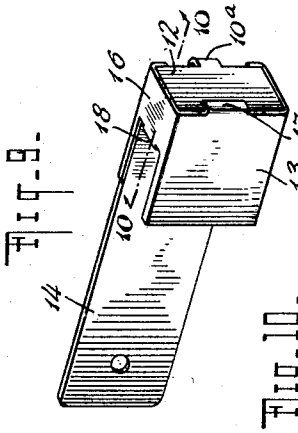


Fig. 9.

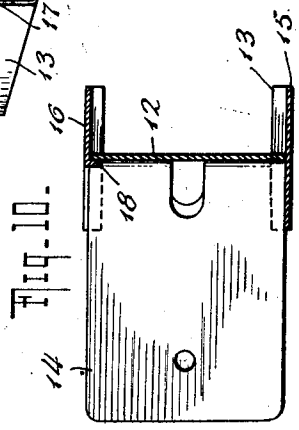


Fig. 10.

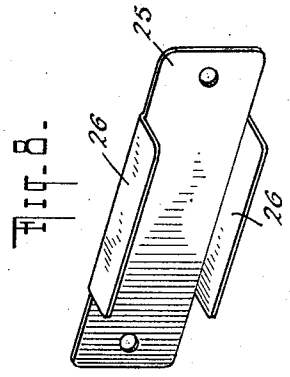


Fig. 8.

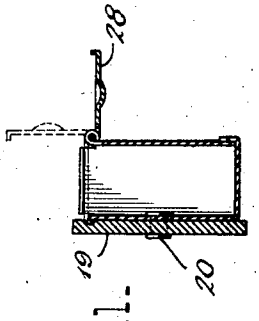


Fig. 11.

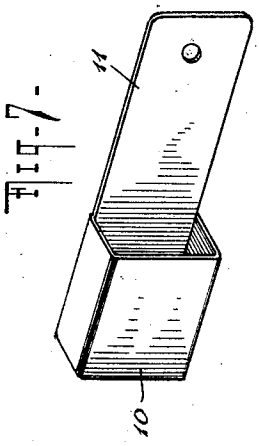


Fig. 7.

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Patented Apr. 23, 1929. 1,710,331

UNITED STATES PATENT OFFICE.

EDWARD ABERLE, OF NUTLEY, NEW JERSEY.

LOOSE-LEAF BINDER.

Application filed December 9, 1926. Serial No. 153,480.

My invention relates to loose-leaf binders and more particularly to that type thereof which is shown in my Patent No. 1,469,573, of October 2, 1923, and has for its object to provide a novel and improved construction, whereby the insertion of the elements carrying the material to be bound and their removal from the binder are facilitated and simplified. Other more specific objects will appear from the description hereinafter and the features of novelty will be pointed out in the claims.

In the accompanying drawings, which illustrate an example of my invention without defining its limits, Fig. 1 is a perspective view of my invention applied to a cover with the latter in its open position and with removable binding strips in place therein; Fig. 2 is a similar view with the binding strips removed and the binder adjusted to facilitate removal or replacement of said strips; Fig. 3 is a perspective view of a binding strip adapted for use with the binder; Fig. 4 is a perspective view of a sheet, recessed in a manner to fit the binder; Fig. 5 is a section on the line 5—5 of Fig. 1, on an enlarged scale; Fig. 6 is a plan view on an enlarged scale of the aforesaid invention; Figs. 7, 8 and 9 are detail perspective views illustrating separately several units which constitute parts of the binder; Fig. 10 is a detail section on the line 10—10 of Fig. 6 showing the end unit of the binder in its open position; Fig. 11 is a cross-section showing another form of the binder.

The invention in all of its forms consists essentially of two recessed retaining members located in opposed spaced relation to each other with the recesses of said members facing each other, in combination with binding strips arranged for connection with the material to be bound and having their opposite ends located in the recessed retaining members so as to be normally held thereby to removably fix the material in the binder; in cases where the physical characteristics of the material are such as to permit it the use of the binding strips may be avoided by combining the material to be bound directly with the retaining members; if the material to be bound comprises sheets this may be accomplished by properly recessing the latter. In any case the arrangement is such that the holding relation which normally exists between the ends of the binding strips and the retaining members, or between the bound sheets or their equivalent, may be relieved at will, at least with respect to one of said retaining members and the cooperating ends of the binding strips or adjacent portions of said sheets or their equivalent to thereby permit the ready removal of the binding strips, sheets, etc., from the binder without requiring said strips, sheets or their equivalent to be flexed.

This result may be accomplished, for instance, by providing one recessed retaining member 10 consisting of a substantially rectangular receptacle mounted upon a carrying member 11 which, as shown, may comprise an extension of the rear wall of said recessed member; the member 10 is open only in a direction toward the opposed recessed member 12 and may be otherwise closed. The opposed retaining member 12, instead of being a fixed receptacle includes a slidable locking section 13 which is slidably mounted upon the member 12, the latter also having one of its walls extended to constitute a carrying member 14. The member 12 is without top or bottom walls but includes an outer end wall as shown in Fig. 9, while the slidable section 13 includes a bottom wall 15 and a relatively reduced top wall 16. In the operative position of the parts the bottom wall 15 registers with the member 12 and constitutes the bottom thereof and the reduced top wall 16 occupies a position in which it partly closes the top of the member 12. A suitable stop 17 is provided on the slidable section 13 for engagement with the outer end wall of the member 12 to arrest the movement of the section 13 toward its operative position and a corresponding stop 18 depends from the top wall 16 for engagement with said outer end wall of the member 12 to arrest the movement of said section 13 toward its inoperative position.

In the illustrated arrangement, the carrying members 11 and 14 are fixed upon a supporting member 19 for instance by means of rivets 20 or the like; if desired tongues 10^a may be stamped from the recessed members 10 and 12 for engagement with the ends of the supporting member 19 as shown in Fig. 6. The construction is such that in the normal position of the parts, the distance between the inner end edges of the bottom of the

recessed member 10 and the corresponding edge of the bottom of the slidable section 13 of the other recessed member 12, is less than the distance between the opposite ends of the binding strips 21 or the outer edges of the leaves 22 or the like, so that said binding strips or said leaves are locked in said recessed members, as is clearly shown in Fig. 1. The strips 21 may be made of any suitable material and are constructed in any convenient way for ready connection with leaves, pamphlets, or equivalent materials 23 which are to be bound or held within the binder; similarly the leaves 22 may be recessed as indicated at 24 for proper direct cooperation with the recessed members 10 and 12. When intentional removal of the strips 21 or the leaves 22 is desired, this may be accomplished by sliding the movable section 13 upon the recessed member 12 in an outward direction whereby the inner end edge of the top wall of said section 13 is shifted to a position beyond the contiguous ends of the binding strips 21 or beyond the edges of the leaves 22 and thus permits either the strips 21 or the leaves 22 to be easily lifted out of this particular recessed member and then withdrawn from the other without interference. The device may be restored to its operative condition by simply returning the slidable section 13 to its initial position on the member 12. The frictional engagement between the section 13 and the member 12 is sufficient to maintain the section 13 in its inner operative position against unintentional movement in an outward direction and also in its outer inoperative position. If desired an intermediate member 25 may be secured upon the supporting member 19; the member 25 as shown in Fig. 2 is provided with lugs 26 which project inwardly therefrom so as to extend over the binding members at intermediate points thereof to maintain said binding members in their intended positions. Instead of being independent elements fixed upon the supporting member 19, the latter and the retaniing members 10 and 13, with the intermediate member 25, if it forms part of the device, may be constructed in the form of an integral unit. The device so far described is preferably combined with a suitable cover in which case the supporting member 19 is secured to the back of the cover in any convenient manner. The cover itself may be of any conventional form and of suitable dimensions and comprises two sections 27 adapted to be folded over each other in the usual way.

Instead of constructing the device as illustrated in Figs. 1 to 10 inclusive and as so far described both retaining members 10 and 12 may comprise units located in fixed relation to each other so as to be incapable of any adjustment either toward or away from each other, said retaining members being arranged to receive and hold the opposite ends of the binding strips or the leaves in the same manner as hereinbefore set forth. In this case, however, either one or both of the retaining members 10 may be upwardly open and provided as shown in Fig. 11 with a hinged cover 28 which in its normal position constitutes the top wall of the particular retaining member of which it forms a part to establish the holding relation between said retaining member and the cooperating ends of the binding strips 21 or parts of the leaves 22. The cover 28 is capable of being swung relatively to said retaining member to the open position shown in Fig. 11. The holding relation between the binding strips or leaves and the retaining member is thus relieved in a manner corresponding to that of the form first described so that said ends of the binding strips or the corresponding parts of the leaves may be removed from the one recessed member and the other ends or portions withdrawn from the other member to free said strips or leaves.

The device in all of its forms is of simple construction and provides an efficient binder in which the material is removably maintained in a condition of easy accessibility; the arrangement provides for the removal of the bound material from and its placement in position in the binder with a minimum of effort and without the necessity for any particular skill on the part of the person using the binder.

It will of course be understood that the specific means whereby the holding relation between the binder and the material bound therein is developed or relieved at will, which is exemplified in the illustrated examples by the slidable section 13 and the hinged cover 28, may comprise a variety of different devices.

Various changes in the specific form shown and described may be made in the scope of the claims without departing from the spirit of my invention.

I claim:

1. A loose-leaf binder comprising opposed recessed retaining members opening toward each other in spaced relation, binding strips adapted for connection with the material to be bound, and having their opposite ends projecting into said recessed retaining members and held thereby, and means comprising a movable part of one of said retaining members and adjustable to a position in which the holding relation between said one retaining member and the cooperating ends of said binding strips may be relieved at will to thereby free the latter and permit said strips to be removed from the binder.

2. A loose-leaf binder comprising opposed recessed retaining members located in spaced relation and opening toward each other for receiving the material to be bound, and means slidable on one of said retaining members to a position in which the holding relation between said one retaining member and the co-

operating portions of said material is relieved at will to thereby free the latter and permit the material to be removed from the binder.

3. A loose-leaf binder comprising a pair of opposed recessed retaining members opening toward each other in spaced relation for receiving the material to be bound, and a locking section slidably mounted on one of said retaining members and slidable toward and away from the other retaining member to an operative position, and to an inoperative position in which the holding relation between said one retaining member and the cooperating portions of said bound material is relieved at will to thereby free the latter and permit said material to be removed from the binder.

4. A loose-leaf binder comprising a pair of opposed recessed retaining members opening toward each other in spaced relation, binding strips adapted for connection with the material to be bound and having their opposite ends projecting into the recessed retaining members and normally held thereby, a supporting member on which said retaining members are mounted, and a slidable locking section on one of said retaining members movable toward and away from the other retaining member to an operative position, and to an inoperative position in which the holding relation between said one retaining member and the cooperating ends of said binding strips is relieved to thereby free the latter and permit said binding strips to be removed from the binder.

5. A loose-leaf binder comprising opposed recessed retaining members opening toward each other and fixed in spaced relation to each other and arranged to receive the material to be bound, one of said retaining members being upwardly open, and a device movably mounted on said upwardly open retaining member and forming the upper wall thereof in its normal position and movable to an inoperative position on said retaining member to release the bound material and permit it to be removed from the binder.

6. A loose-leaf binder comprising a pair of opposed recessed retaining members facing each other in spaced relation for receiving the material to be bound, a slidable section mounted on one of said retaining members so as to be movable toward and away from the other retaining member to thereby relieve the holding relation between one of said retaining members and the cooperating portions of said material to thereby free the latter and permit said material to be removed from the binder, means for arresting the outward movement of said movable section and means for arresting the inward movement thereof.

In testimony whereof I have hereunto set my hand.

EDWARD ABERLE.