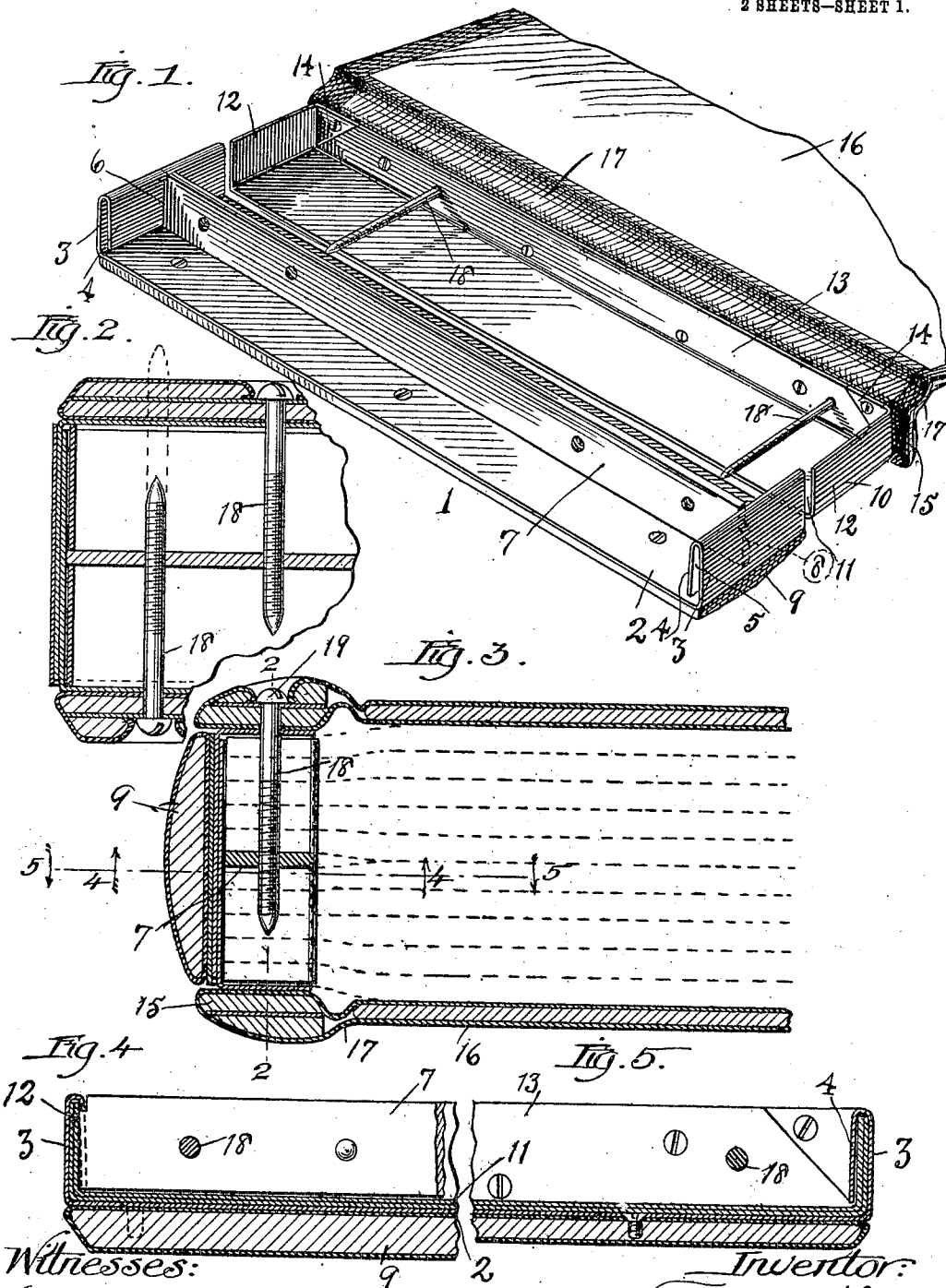


No. 838,323.

PATENTED DEC. 11, 1906.

T. P. HALPIN.
LOOSE LEAF BINDER.
APPLICATION FILED FEB. 20, 1906.

2 SHEETS—SHEET 1.



Witnesses:

Frank Blanchard
Emilie Cox.

Inventor:

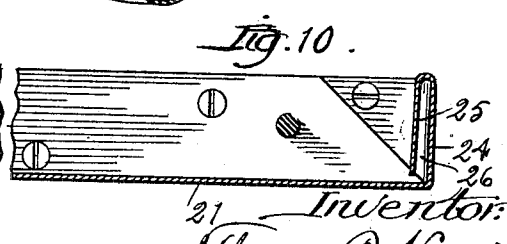
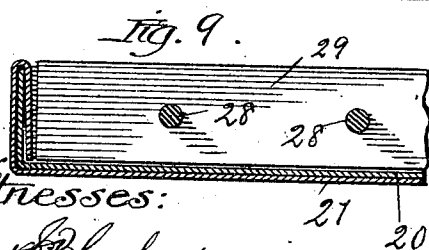
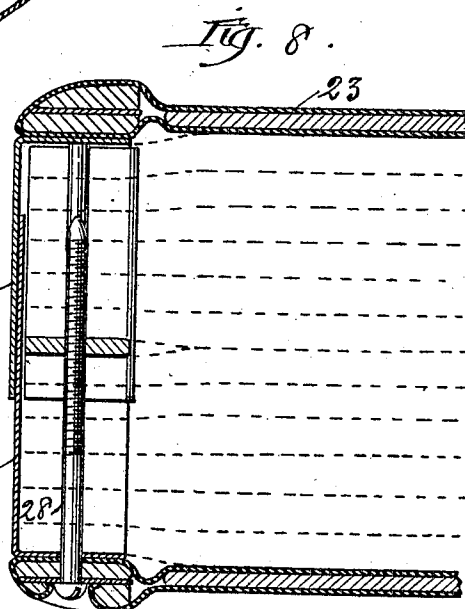
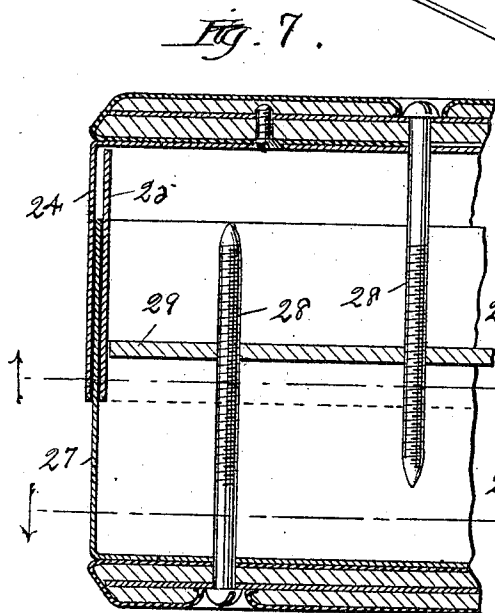
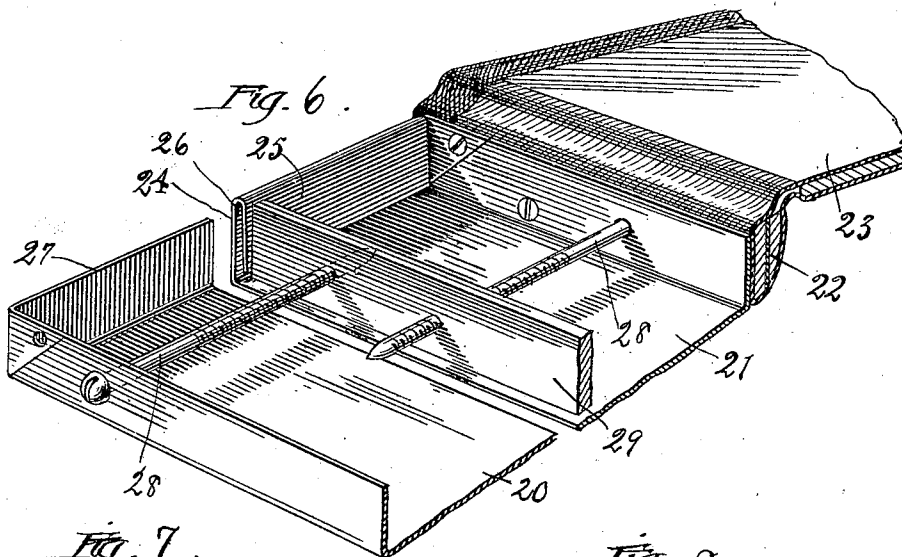
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2 SHEETS—SHEET 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

THOMAS P. HALPIN, OF CHICAGO, ILLINOIS.

LOOSE-LEAF BINDER.

No. 838,323.

Specification of Letters Patent.

Patented Dec. 11, 1906.

Application filed February 20, 1906. Serial No. 302,130.

To all whom it may concern:

Be it known that I, THOMAS P. HALPIN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Loose-Leaf Binders, of which the following is a specification.

This invention relates to improvements in loose-leaf binders of that general type in which the opposite sides of the binder-frame are approachable to and retractable from each other and the loose leaves are held in position by means of impaling-pins.

Many different forms of binders of the impaling-pin type have been invented, and in many of these expedients have been adopted to provide some form or other of telescoping or sectional impaling-pins which will enable the binder to be expanded and will prevent the impaling-pins from projecting to a seriously objectionable extent when the binder is contracted.

My invention has for one of its salient objects the same general end—namely, the production of a binder which is capable of expansion and contraction without causing the impaling-pins to project outside of the binder; but this I accomplish in a simplified and improved manner.

Other objects of the invention are to provide a construction in which an intermediate division-plate is provided, and the two halves of the binder at either side of this division-plate may be expanded or retracted independently of each other; to provide a construction in which impaling-screws of the simplest and extremely common type may be employed, thus effecting economy of cost and enabling other screws to be substituted readily; to provide a construction which affords great strength and rigidity when the binder members are clamped upon the leaves, even though the binder be of abnormal capacity—as, for example, when designed for use as a catalogue-binder; to provide a construction which can be contracted and expanded to vary its holding capacity almost one hundred per cent. without the substitution of other impaling-pins, without causing the pins to project at any stage of contraction, and without materially lessening the rigidity of the structure when fully expanded; to provide a construction which at all times presents a smooth and finished exterior not likely to scratch or mar the desk, and in general to provide an extremely

simple, cheap, and efficient structure of the character referred to.

The invention consists in the matters hereinafter described, and more particularly pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of the back member and one of the side members with the cover attached thereto, the two members mentioned being separated from each other and a part of the cover broken away to reduce the size of the figure. Fig. 2 is a transverse sectional view taken on line 2 2 of Fig. 3. Fig. 3 is a view taken longitudinally through the closed and partially-filled binder in the plane of one of the impaling-screws. Figs. 4 and 5 are views taken on lines 4 4 and 5 5, respectively, of Fig. 3 and looking in the direction of the arrows, the binding being omitted. Fig. 6 is a perspective view generally similar to Fig. 1, but showing a modified construction. Figs. 7, 8, 9, and 10 correspond, respectively, to Figs. 2, 3, 4, and 5, but in each instance show the modified construction shown in Fig. 6.

Describing first the construction illustrated in Figs. 1 to 5, inclusive, 1 designates as a whole a back member which comprises a sheet-metal back strip 2, having its end portions 3 turned at right angles outwardly and then bent back or returned upon itself, as indicated at 4, to form guideways 5 at each end of the back. The returned portions 4 are provided with vertical slots or openings 6 at points midway of the width of the back, and a division plate or bar 7 has its ends constructed to fit and rest within these slots, as indicated in dotted lines at 8, the vertical width of this plate being preferably somewhat less than the vertical depth of the out-turned ends 3, as seen clearly in the drawings. Desirably a leather-cover back strip 9 is applied to the outside of the back plate 2.

10 designates as a whole one of the side frames, which is made of sheet metal and comprises a back-plate portion 11 and integral end and side portions, (designated 12 and 13, respectively,) formed integral with the back-plate portion and perpendicular to the latter. In order to strengthen and facilitate the construction, the corners of the side plate 13 are cut off and corresponding ear-like extensions 14 are formed integrally with the respective end plates 12 and bent into the plane of the side plate, these ear-like portions and the side plate itself being riveted or

screwed to an outer cover-reinforcing strip 15. The side cover of the binder 16 is connected with the reinforcing-strip 15 by means of a flexible hinge portion 17. It will be understood that the opposite side-frame member 10 of the binder is in all respects substantially identical with that just described. The back-plate portion 11 and end-plate portions 12 telescope and fit within the corresponding side of the back member 1, the end plates 12 fit within the guideways 5, and the back-plate member 11 resting inside of and against the back plate 1.

In order to hold the side members in adjusted relation to the back member and at the same time impale the leaves within the binder, impaling-screws 18 are extended inwardly through the side bodies and threaded into the division-plate 7, there being a pair of impaling-pins 18 inserted through each side body and into the division-plate and the two pairs being arranged more or less out of register with each other—as, for example, as indicated in Figs. 1 and 2. The outer ends of the impaling-screws are headed and slotted, as indicated at 19, so that the side bodies may be positively approached or retracted by the use of an ordinary screw-driver.

Inasmuch as the division-plate 7 is of substantial width and is flat it follows that when either set of impaling-screws is turned inwardly, so as to clamp the embraced leaves firmly between the side of the division-plate and the opposing side of the side body, the latter will be held with great rigidity independently of the support therefor afforded by the engagement of its end plates 12 with the guide-passages 5 and independent of the support afforded by the engagement of its back plate 11 with the back plate 2 of the back member. It will be obvious, moreover, that the advancement and contraction of either side body relatively to the division-plate is independent of the opposite side body, and accordingly either side of the binder may be loosened up or entirely detached without disturbing the contents or adjustment of the opposite side. The fact that the contents of one side of the binder may thus always be kept rigid with the back contributes very greatly to the convenience of handling the binder in that it avoids the general looseness and tumble-down action which is characteristic of most loose-leaf binders when they are loosened up for the purpose of adding to or removing their contents.

The construction shown in Figs. 6 to 10, inclusive, possesses the same general characteristics, but is capable of being somewhat more cheaply constructed. In this latter construction 20 and 21, respectively, designate as a whole the two side frames, which are so constructed that they telescope together and form the back covering of the binder. The member 20 corresponds in its

form and method of construction to the member 10 of the device shown in Figs. 1 to 5, it being understood that in the drawing Fig. 6 the side strip 22 and cover member 23 are disconnected from the member 20. The member 21 is constructed generally like the member 20, with the exception that each of its ends 24 is provided with a return-flap or flange portion 25, which return portions, in conjunction with the ends 24, form guideways 26, corresponding in function to the guideways 5 of the previously-described binder. The end walls 27 of the member 20 telescope and fit within these guideways 26 when the binder is in closed or partially-closed position. In this construction, as in the previously-described construction, each side frame carries impaling-pins 28, and these engage at their inner ends a division bar or plate 29. The division-plate 29 is in the present instance entirely disconnected from the binder-frame, except in so far as it is connected thereto through the medium of the impaling devices 28. In other words, it is suspended in position by said impaling-pins, although preferably it will be of such length that its ends extend into proximity to the end flanges 25, and thus hold it against endwise movement. The fact that the division-plate is held clamped between the two groups of leaves contained in the respective halves of the binder, in conjunction with the rigidity against flexure of one back member relatively to the other because of the telescopic interengagement of the two binder-frames, makes the structure amply rigid without the necessity of positively connecting the division-plate to the binder other than through the impaling devices. Moreover, the impaling devices will in most cases—i. e., until the binder is filled to its full capacity—extend through the division-plate and enter the leaves beyond the latter as to each side, and this in itself aids materially in rendering the structure rigid.

From the foregoing description it will be seen that a device embodying my invention accomplishes the several objects hereinbefore set forth and affords an extremely simple, cheap, and efficient binder.

It is to be understood that the details of construction may be modified without departing from the broad spirit of the invention.

I claim as my invention—

1. In a binder, the combination with side frames, and impaling devices connected therewith and extending inwardly, of a division-plate with which said impaling devices are adjustably engaged and whereby the said frames are united with each other.

2. In a binder, the combination with approachable and retractable side-frame members, of a division member spaced between said side members and between the leaves

contained in the binder, and impaling devices mounted upon the respective side members and extending through the leaves and engaging the division member.

5 3. In a binder, the combination with side-frame members approachable and retractable toward and from each other, of a division-plate spaced between said side members and
10 between the leaves contained in the binder, and clamping devices connected with the respective side frames and the division-plate and operable to draw said parts forcibly together.

15 4. In a binder, the combination with approachable and retractable side-frame members, of a division-plate spaced between said side-frame members, and headed impaling-screws journaled in the respective side-frame members and threaded into the division-plate.
20

25 5. In a binder, the combination with approachable and retractable side-frame members, of a division-plate spaced between said side-frame members, and headed impaling-screws journaled in the respective side-frame members and threaded into the division-plate, the impaling-screws of the opposite

members being offset out of alinement with each other so as to engage the division-plate at longitudinally-separated points.

6. In a binder, the combination of binder members having telescopic engagement with each other whereby the side-frame members are approachable toward and retractable from each other and held in definite alinement or relation during such movement, of a division-plate spaced between the lateral sides of said binder members and between the leaves contained in the binder, and impaling devices mounted in the respective side-frame members of the binder and operatively engaged with said division-plate. 30 35 40

7. In combination, two binder side-frame members each of three-sided box-like construction, means telescopically uniting said binder side-frame members, a division-plate spaced between said members, and impaling-screws journaled in the respective binder side-frame members and threaded into the division-plate in opposite directions. 45

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