May 15, 1928.

H. S. JONES

1,669,940

MULTIPLE PRONG VISIBLE LOOSE LEAF BINDER

Filed March 29, 1926

2 Sheets-Sheet 1

FIG. 1

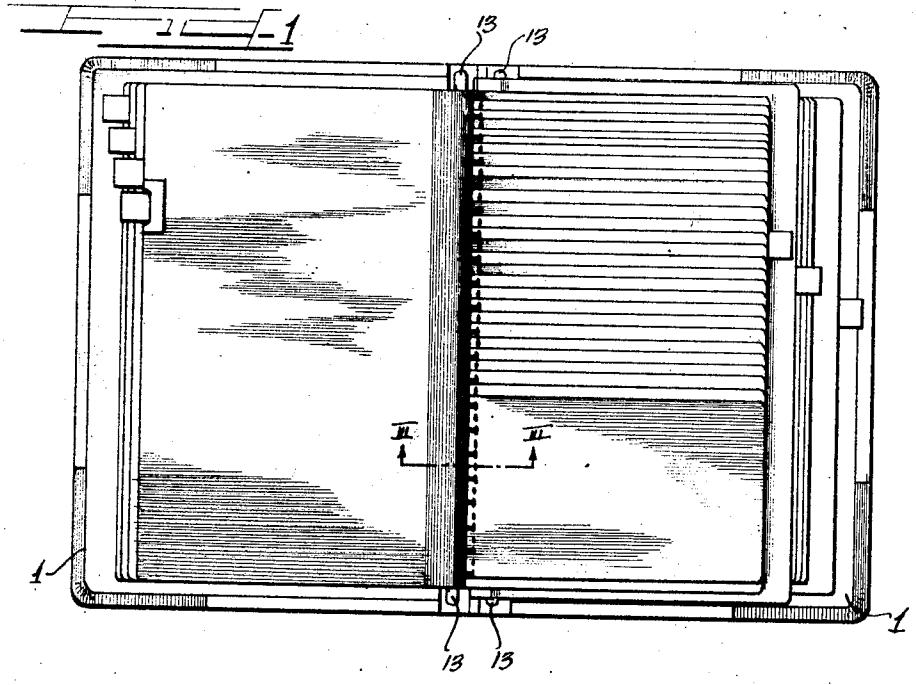


FIG. 2

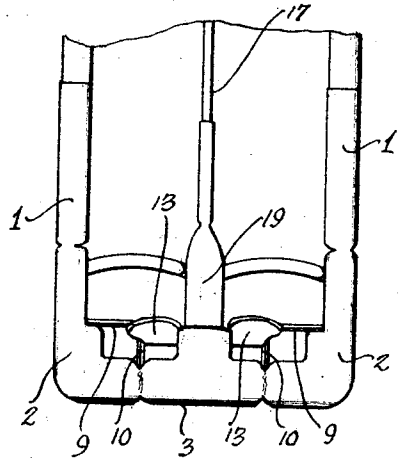
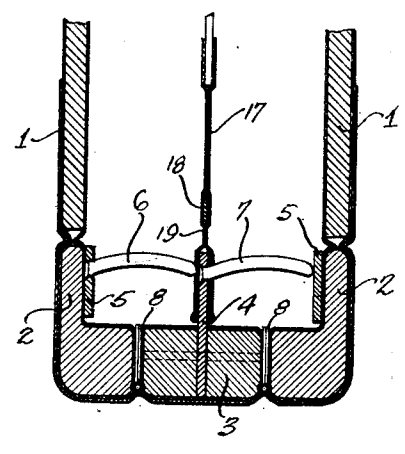


FIG. 3



Inventor

Harry S. Jones

By

Attys

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H. S. JONES

MULTIPLE PRONG VISIBLE LOOSE LEAF BINDER

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FIG. 4

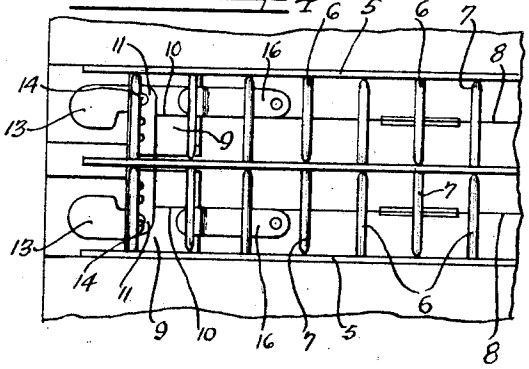

FIG. 8

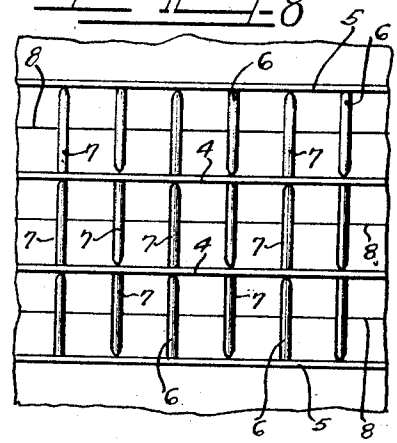

FIG. 5

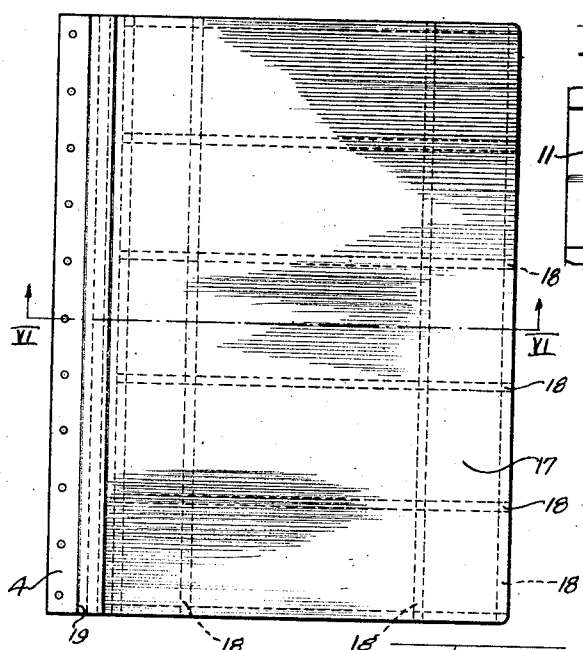

FIG. 7

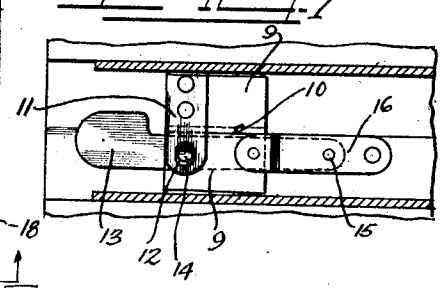

FIG. 6

Inventor
Harry S. Jones

By Charles W. Hills
Attys

Patented May 15, 1928. 1,669,940

UNITED STATES PATENT OFFICE.

HARRY S. JONES, OF CHICAGO, ILLINOIS.

MULTIPLE-PRONG VISIBLE-LOOSE-LEAF BINDER.

Application filed March 29, 1926. Serial No. 98,151.

This invention relates to a loose leaf binder primarily designed for containing visible records.

The binders as now constructed for containing visible records, are not satisfactory in that the sharp curve of the prongs at their base causes the sheets to stick and bind and unless handled very carefully, they will tear at the holes. Binders of two inch capacity or more have this difficulty, and the larger the binder is made, the greater does the curvature of the prongs become and the greater the difficulty.

A number of methods have been devised in an attempt to overcome this difficulty. In some instances, buffer plates have been used for fitting in the sharp curves on the prongs. Such buffer plates, however, lessen the capacity of the binder and when only a few sections of sheets are in the binder, the sheets, in handling and posting, will become crosswise or biased and will tear the holes.

Another drawback to such binders resides in the fact that when the center portion is thicker than the end portions, that is when there are more index slips at the center than at the ends, and the binder is closed in the usual way, the end sheets or slips will sag and the holes will be out of alinement with the prongs, and the sheets will be mutilated by the prongs.

To overcover this latter difficulty, press boards have been inserted at certain intervals in the binder. It has however been found that such boards would soon sag at the ends, and the old difficulty would occur.

It is an object of this invention to overcome the objectionable features of prior art devices in the provision of a binder having a plurality of independent sections, each section being sufficiently small or narrow in width to obviate the sharp curve of the prongs at their base, and to obviate the objectionable sagging of the index sheets.

The invention comprises the novel structure and combinations hereinafter described and more particularly pointed out and defined in the appended claims.

In the accompanying drawings, which illustrate a preferred embodiment of this invention and in which similar reference numerals refer to similar features in the different views:

Figure 1 is a plan view of a binder in open position involving this invention.

Figure 2 is an enlarged fragmentary end elevational view of the same.

Figure 3 is an enlarged fragmentary sectional view taken upon the line III—III of Figure 1.

Figure 4 is an enlarged fragmentary interior plan view of the binder with the sheets omitted.

Figure 5 is an enlarged plan view of a division board that separates a pair of units or sections.

Figure 6 is an enlarged sectional view taken upon the line VI—VI of Figure 5.

Figure 7 is a part sectional and part elevational detail view illustrating the latching mechanism for a unit.

Figure 8 is an enlarged fragmentary interior plan view of a binder with the sheets omitted showing a structure comprising more than two units.

As illustrative of this invention, there is shown a binder comprising the cover members 1 which are flexibly hinged to the sides 2 of the back. The sides 2 of the back are hinged to a central back member 3 provided with a division plate 4 which divides the binder into a plurality of units or sections. The binder may be constructed to form any number of units. In Figures 1 to 4, the binder is shown constructed of two units while in Figure 8, a binder is shown having three units.

Upon the sides 2 of the back of the binder, are hook carrying plates 5 that support the prongs 6. The division plate 4 supports two series of prongs 7, one series extending from each side of such plate. In case the binder is constructed of more than two units, say for example three units as shown in Figure 8, there will be two division plates 4, each of which supports two series of oppositely directed prongs 7. Each unit is hinged upon its center line as indicated by the lines 8. Any common and well known hinge connection may be used.

Each unit may be independently opened and closed without disturbing the other units. To this end, each unit has its own latching mechanism which is best illustrated in Figures 2, 4 and 7, and which will be now described. Each unit of the binder has a pair of end hinges 10, and each member of each hinge has a horizontal lug 9. To one lug of each hinge is secured a spring latch member 11 provided with an aperture 12

at its free end, which registers with a similar aperture in the other lug when the hinge is in closed position. A second resilient latch member 13 extends beneath each apertured lug and is provided with a bevelled stud 14 which normally projects through the aperture in the lug 9. The end of each latch member 13 extends beyond the lug 9 and is secured by a pin 15. A clip 16 overlies the latch member 13, the same being secured at one end to the binder and at the other end to the lug 9. The latch members 13 project a distance beyond the sheets so that they can be depressed for withdrawing the studs 14 from the apertures in the arms 11 so that the units can be opened. As soon as a unit is opened, the latch members 13 will snap back to normal locking positions. When the unit is closed, the resilient arms 11 will slide over the studs, the latch members yielding for such a purpose until the studs snap into the apertures 12 in said arms.

Each division plate 4 has attached thereto a partition member 17 which may be made of any suitable material that posseses the required rigidity. If desirable, the partition member may be formed with suitable sheathes for receiving thin stiffening rods 18 of metal or other suitable material. The partition members 17 are preferably connected by flexible means 19 to the division plate 4 so that the same may be easily swung with respect to such division plate. This flexible means may consist of leather or imitation leather or the like.

It will be apparent that by using a plurality of separate units which are independently operable, the lengths of the prongs is greatly reduced. Consequently the curvatures thereof are greatly reduced so that no sharp curves exist at the base thereof upon which the sheets can stick and bind. Furthermore, as the units are relatively narrow, there is little liability of the sheets becoming unalined when the unit is closed due to uneven thicknesses.

I am aware that many changes may be made, and numerous details of construction may be varied through a wide range without departing from the principles of this invention, and I therefore do not purpose limiting the patent granted hereon, otherwise than necessitated by the prior art.

I claim as my invention:

1. In a binder, a back comprising a plurality of members hinged together, a partition plate extending from one member and impaling prongs extending from opposite sides of said plate.

2. In a loose leaf binder, a back member having a division plate, prongs extending from opposite sides of said plate, a second prong carrying member hinged to one side of said back member, and a third prong carrying member hinged to the other side of said back member.

3. In a loose leaf binder, a back member, a prong carrying plate connected to said back member, a partition flexibly connected to said plate, and a prong carrying member hinged to each side of said back member.

In testimony whereof I have hereunto subscribed my name.

HARRY S. JONES.