June 23, 1936. P. A. MARIHUGH 2,045,040

LOOSE LEAF BINDER

Filed March 29, 1935

Fig. 1.

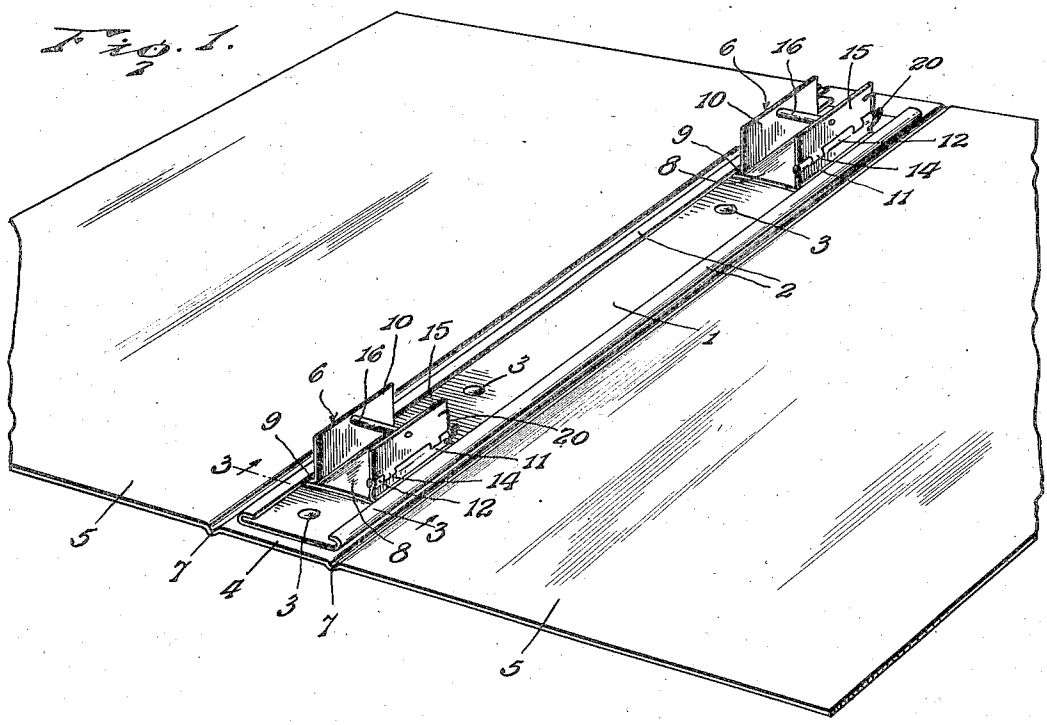


Fig. 2.

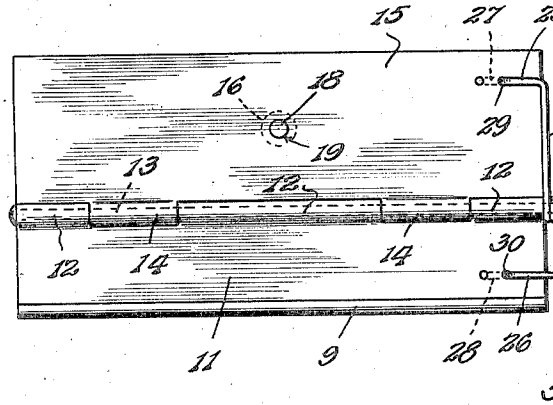
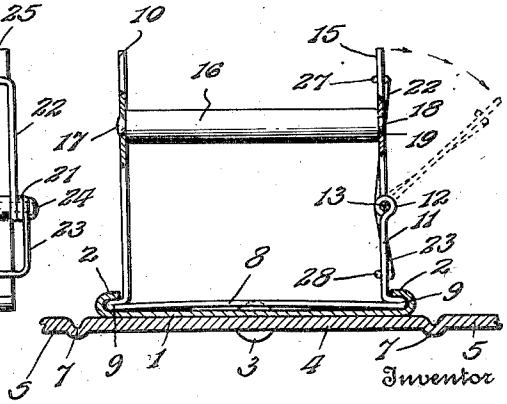


Fig. 3.



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LOOSE-LEAF BINDER

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5 Claims. (Cl. 129—23)

This invention relates to a loose leaf binder of the type used for holding loose leaves of a note book, ledger, or other record book, and one object of the invention is to provide a binder wherein leaf engaging members are carried by a backing strip extending along the backing portion between the covers of the binder, the leaf engaging elements being so mounted that they may be slid along the backing strip toward and away from each other and thus accommodate themselves to the dimensions of the leaves which are to be secured in the binder.

Another object of the invention is to so construct the backing strip and the leaf engaging members or elements that while the leaf engaging members may be slid along the backing strip they will not be liable to become detached therefrom and will further be held in their adjusted positions.

Another object of the invention is to so form the leaf engaging members that each is provided with jaws, one of which is pivotally mounted for swinging movement into and out of position to engage a pin which extends through an opening formed in a leaf, the movable jaw being yieldably held in position to engage an end of the pin whereby it will be normally held in such engagement with the pin but may be very easily swung out of engagement therewith when it is desired to insert or remove one or more leaves.

Another object of the invention is to provide a loose leaf binder wherein the backing strip and leaf engaging members may be formed of sheet metal and thus cheaply produced.

The invention is illustrated in the accompanying drawing, wherein

Figure 1 is a perspective view of the improved loose leaf binder.

Figure 2 is a side elevation upon an enlarged scale of one of the leaf engaging members.

Figure 3 is a section taken along the line 3—3 of Figure 1 with portions of the leaf engaging member shown in section.

This improved loose leaf binder includes a mounting strip 1 which may be referred to as a backing strip and is formed from a sheet metal blank having marginal portions bent inwardly to form overhanging flanges 2. This backing strip is secured by rivets or equivalent fasteners 3 against the inner face of the back portion 4 formed between the front and rear sides 5 of the cover and carries leaf engaging members or elements 6 which are disposed between the front and rear sides when the binder is closed. The cover may be formed of any suitable material desired which will preferably provide stiff front and rear sides 5 and is scored, as shown at 7, to set off the sides from the intermediate portion 4 and permit the binder to be closed.

The two leaf engaging members or elements are of a duplicate construction and are slidable along the backing strip 1 toward and away from each other so that they may accommodate themselves to the dimensions of loose leaves which are to be secured in the binder. As the leaf engaging members are of a duplicate construction the following detail description of one will suffice for both.

Each of these leaf engaging members is formed of sheet metal and has a bridge portion 8 formed by bending a sheet metal blank. At opposite sides of the bridge portion, the metal blank is crimped and then bent upwardly to form lips 9 of double thickness, and referring to Figures 1 and 3 it will be seen that a jaw 10 extends from one of the lips while a short mounting flange 11 extends from the other lip. The mounting flange carries tongues which are rolled to form hinged ears 12 to receive a pivot pin 13 engaged through cooperating hinged ears 14 formed upon the lower or inner side edge of a movable jaw 15 which is also formed of sheet metal. The mounting flange and the movable jaw have a combined height corresponding to the height of the stationary jaw 10 and serve to hold loose leaves between them with pins 16 extending through the usual openings or slots formed in loose leaves. The pin of each leaf engaging member has reduced ends forming lugs 17 and 18, and referring to Figure 3 it will be seen that the lug 17 is passed through an opening formed in the stationary jaw 10 and upset as a rivet to firmly secure the pin to the stationary jaw, whereas the lug 18 is loosely received in an opening 19 formed in the movable jaw thereby permitting the movable jaw to have supporting engagement with this end of the pin but at the same time allowing the movable jaw to be swung to a releasing position, as indicated by dotted lines in this figure. By this arrangement the loose leaves may be very easily applied to the pin 16 or removed therefrom when the movable jaw is swung to the dotted line position in Figure 3 and the movable jaw then returned to its normal position in which the lug 18 will again engage in the opening 19 and cause the pin to be firmly supported with the loose leaves held upon the pin and prevented from accidentally becoming detached. Each of the movable jaws is yieldably held in its normal position by a spring 20 formed

of resilient wire, the wire being coiled intermediate its length to form a helical spring portion 21 and arms 22 and 23 extending therefrom. The helical spring portion is engaged about the pivot pin 13 between the head 24 of the pin and the hinged ear or sleeve 12 at one end of the mounting flange, and the arms 22 and 23 extend along edges of the movable jaw and mounting flange with their ends bent inwardly to form fingers 25 and 26 which terminate in hooks 27 and 28 engaged through openings 29 and 30 formed in the movable jaw and mounting flange.

When this binder is in use, loose leaves, which are preferably of no greater dimensions than the front and rear portions of the cover and may be appreciably smaller, are set in place upon one of the cover sections and the leaf holding members slid along the backing strip until their pins are spaced a distance corresponding to the distance between openings of the leaves. The movable jaws are swung away from the pins 16 and these pins then engage through openings of the leaves after which the movable jaws are allowed to return to their normal positions in which the lugs 18 engage through openings 19 of the movable jaws. The movable jaws will thus be held in engagement with the pins and will support these pins and prevent the leaves from slipping out of engagement with the pins. The binder may then be handled as a book and opened and closed in the usual manner. When it is desired to remove a leaf or insert other leaves, it is merely necessary to open the binder and swing the movable jaws away from the pins so that a leaf may be withdrawn or others applied. There is a frictional binding between the lips 9 and the inturned flanges 2 of the backing strip which prevents the leaf engaging members from sliding freely along the backing strip and accidentally dropping out of engagement therewith and it should also be noted that the heads at the inner ends of the rivets 3 serve as stops across which the leaf engaging members must be forced when it is desired to slide these leaf engaging members along the backing strip to positions in which they must pass the rivets. This causes a positive stop and will very effectively prevent accidental sliding of the leaf engaging members to a position in which they can drop out of the ends of the backing strip.

Having thus described the invention, what is claimed as new is:

1. In a loose leaf binder, a cover, a backing strip having overhanging flanges along its side edges, fasteners passed through the backing strip and cover and having heads at their inner ends, and leaf engaging members carried by said backing strip, each leaf engaging member having portions slidably engaged under said flanges and an intermediate portion extending across the backing strip between the flanges, the heads at the inner ends of said fasteners constituting abutments for engagement by ends of the intermediate portions of the leaf engaging members to normally limit movement of the leaf engaging members along the backing strip and the leaf engaging members being formed of yieldable material whereby the leaf engaging members may be forced across the abutments along the backing strip to a position out of engagement by the flanges.

2. In a loose leaf binder, a cover, a backing strip, leaf engaging members disposed against said backing strip and slidable along the same to adjusted positions in predetermined spaced relation to each other longitudinally of the backing strip, and fasteners securing the backing strip to said cover with their inner ends serving as abutments to engage the leaf engaging members and limit normal sliding of the leaf engaging members along the backing strip, the leaf engaging members being formed of yieldable material whereby they may be forced over the abutments and slid along the backing strip to a position out of engagement with the backing strip.

3. In a loose leaf binder, a backing strip formed of sheet material and having inturned overhanging flanges along its side edges, and leaf engaging members carried by said backing strip and each having a bridge portion, a stationary jaw extending upwardly from the bridge portion, a mounting flange extending upwardly from the bridge portion and spaced from the stationary jaw transversely of the bridge portion, the stationary jaw and mounting flange being spaced from side edges of the bridge portion to provide lips engaged under the flanges of the backing strip to hold the leaf engaging member in slidable engagement with the backing strip, a movable jaw pivoted to said mounting flange, a pin carried by one jaw and extending across the bridge portion in spaced relation thereto toward the other jaw, the last-mentioned jaw being formed with a socket to receive the free end of said pin, and a spring yieldably holding the movable jaw in a normal position with the free end of the pin engaged in the socket.

4. In a loose leaf binder, a backing strip having flanges along oppoiste side edges, and leaf engaging members carried by said backing strip, each leaf engaging member comprising a blank of sheet material bent to form a bridge portion having a stationary jaw and a mounting flange projecting therefrom adjacent opposite side edges of the bridge portion, the stationary jaw and mounting flange being spaced from the side edges of the bridge portion to provide lips of double thickness engaged under the flanges of the backing strip to slidably mount the leaf engaging member for movement along the backing strip, a pin having one end secured to the stationary jaw, said pin extending across the bridge portion in spaced relation thereto with its free end reduced to form a lug, a movable jaw pivoted to said mounting flange and formed with an opening to receive the lug of said pin, and a spring yieldably holding the movable jaw in a normal position with the lug of the pin engaged in the opening of the movable jaw.

5. In a loose leaf ledger, a backing strip formed with flanges along its side edges, leaf engaging members carried by said backing strip, each leaf engaging member consisting of a blank of sheet material folded in spaced relation to it outermost side edges to form a bridge portion having a stationary jaw and a mounting flange projecting thereform in spaced relation to each other transversely of the bridge portion, the blank being crimped at the junction of the bridge portion with the stationary jaw and mounting flange to form lips of double thickness engaged under the flanges of the backing strip to slidably mount the leaf engaging member, a pin carried by the stationary jaw and extending across the bridge portion, a movable jaw formed with an opening to receive the free end of said pin, the movable jaw and mounting flange having tongues rolled to form hinged ears disposed in alinement, a pivot pin extending through the hinged ears to pivotally mount the movable jaw and having one

end portion projecting and formed with a head, and a spring formed from a strand of resilient material coiled intermediate its length to form a helical portion engaged about the projected end of the pivot pin, and arms extending from the helical portion, said arms extending along adjacent edges of the movable jaw and mounting flange and having their ends bent to form inwardly extending fingers terminating in hooks engaged through openings formed in the mounting flange and movable jaw whereby the spring will yieldably hold the movable jaw in a normal position with the free end of said pin engaged in the opening of the movable jaw.

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