May 2, 1939. J. MANDEL 2,157,080

BINDER

Filed May 29, 1937

Fig. 1.

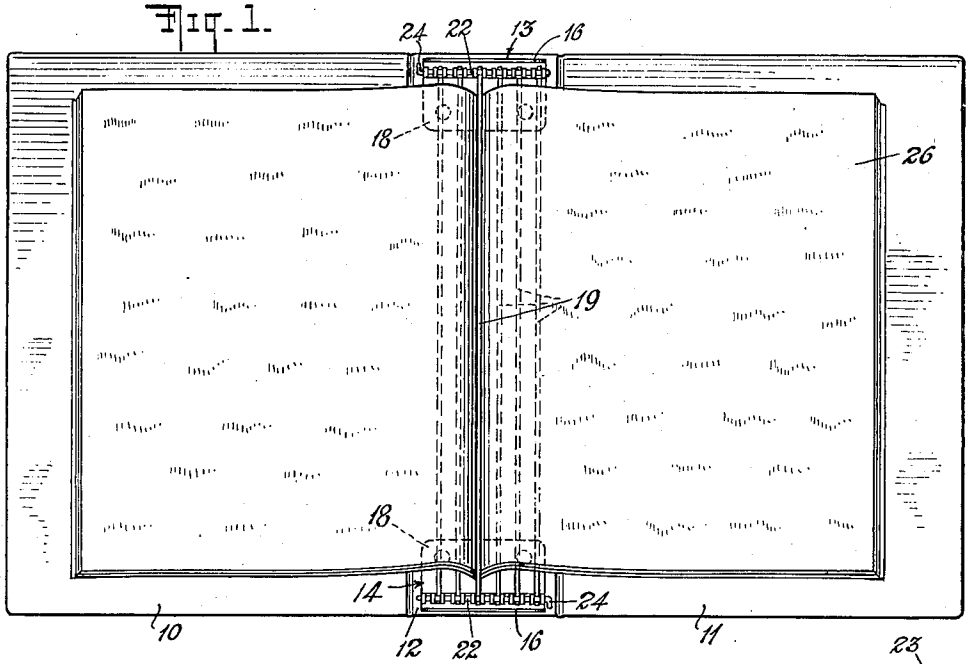


Fig. 2.

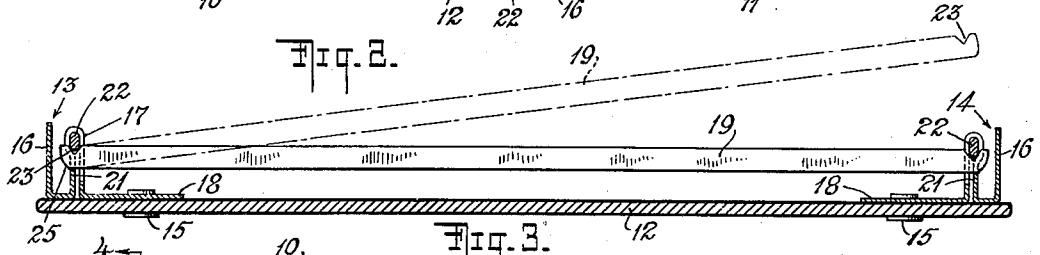


Fig. 3.

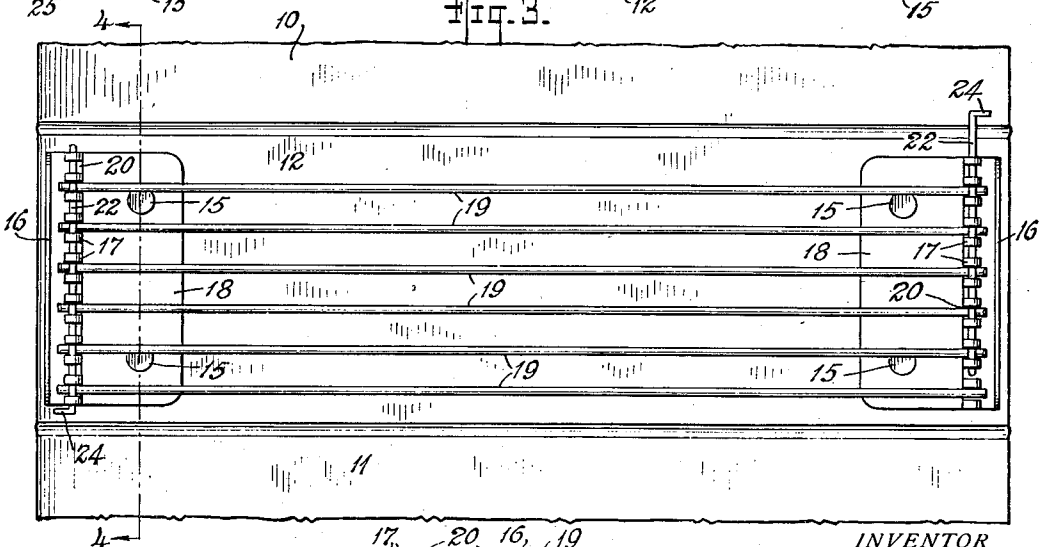
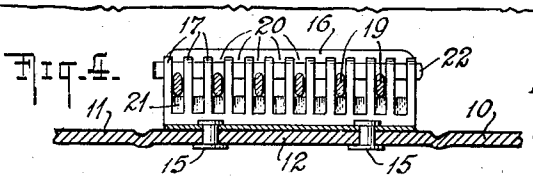


Fig. 4.



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2,157,080

BINDER

Jacob Mandel, Brooklyn, N. Y., assignor to American Binder Company, New York, N. Y., a corporation of New York

Application May 29, 1937, Serial No. 145,439

2 Claims. (Cl. 129—38)

My invention relates to devices for binding magazines, catalogues, folders and the like, and more particularly to binders in which magazines, catalogues, etc. can be individually mounted either temporarily or permanently.

The present invention is an improvement on the constructions shown in my copending application, Ser No. 127,606, filed February 25, 1937.

It is the object of the present invention to provide a binder construction having brackets or anchoring devices which receive the ends of mounting rods or bars and in which the ends of the bars are locked in a manner to prevent bowing of the bars or at least are restrained from bowing to such an extent as to make possible the disengagement of the bars from one or both of the anchoring brackets.

A further object of the invention is to provide a binder having brackets of such construction that they can be stamped from a single piece of sheet metal, the brackets being strong and rigid and presenting a neat and pleasing appearance.

It is a still further object of the invention to provide a binder construction in which extremely thin bars are employed for mounting the magazines or other matter while at the same time the bars are prevented from working out of the anchoring brackets in spite of their increased flexibility.

Another object of the invention is to provide a construction of the type indicated in which locking means are provided in association with the mounting brackets and in which one end of a bar can be inserted or removed from a bracket while the locking means is in its locking position, thereby rendering it unnecessary to release the locking means of both brackets in order to mount or demount a bar.

Other objects of the invention will appear as the more detailed description thereof proceeds and the features of novelty will be set forth in the appended claims.

In a preferred form of the invention the mounting brackets are each composed of a single piece of sheet metal which is bent to provide a guard plate section and an intermediate loop section which is slotted at intervals to receive the ends of the mounting bars, the slots being preferably open at the top so that the bars can be lowered conveniently thereinto. The looped portion of the bracket is adapted to receive a locking pin which is movable transversely of the assembled mounting bars, and the latter are provided with notches, shoulders or the like for engagement with the pin. The latter thus holds the bars against endwise movement and also limits or completely restrains the intermediate portions of the bars, that is, the parts of the bars about which the mounted matter is folded, from bending. In consequence, the bars are compelled to support the mounted matter substantially without bowing or sagging, so that the reading matter is held neatly in place while at the same time disengagement of any of the bars is reliably prevented. Accidental displacement or disengagement of any bars upon inverting of the binder is thus insured against even in the case of unusually heavy magazines held in place by extremely thin strips of metal.

The end portions of the bars beyond the shoulders or notches which engage the locking pins are preferably of limited length and may be suitably rounded off to enable an end of a bar to be inserted within its slot and into engagement with the locking pin while the latter is in its locking position, the other end of the bar, after the magazine or other reading matter has been folded thereabout, being then lowered into its slot on the other bracket while the associated locking pin is withdrawn, after which the pin is moved into locking position and the magazine becomes firmly mounted on the binder.

The accompanying drawing shows by way of example a satisfactory embodiment of the invention. In said drawing—

Figure 1 is a plan view of a binder construction in accordance with the principles of the invention and showing a plurality of bars in mounted position, only one of the bars being shown as supporting a magazine;

Fig. 2 is an enlarged section through the binder parallel to the mounting bars;

Fig. 3 is an enlarged plan view of the mounting bracket and associated parts, one of the locking members being shown in partly withdrawn position to permit the insertion or removal of a bar; and

Fig. 4 is a transverse section along the line 4—4 of Fig. 3.

The binder shown in Fig. 1 includes the cover portions 10 and 11 and the intermediate or back portion 12 of any suitable construction, such as cardboard covered with paper cloth, leather or the like. Brackets 13 and 14 are secured, as by means of rivets 15, at the top and bottom of the intermediate portion 12 of the binder.

In the form of the invention illustrated, the brackets 13 and 14 are of identical construction and each is composed of a strip of sheet metal

which is bent to provide an upstanding guard plate 16, a reversely bent intermediate portion 17 and an inwardly extending base plate 18, the rivets 15 passing through the base plates 18. The brackets are provided with recesses or slots for receiving the end portions of the mounting bars or rods 19, and in the form of the invention illustrated, the intermediate portion 17 of each bracket is cut transversely to provide a plurality of slots 20 which are open upwardly, so that the ends of the bars 19 can be positioned within opposite aligned slots by simple downward movement thereinto. In their lowered position, the bars rest upon ledges or flanges 21, the height of such ledges being sufficient to accommodate the maximum thickness of the matter to be mounted in the binder.

The upper looped portion of each intermediate section 17 is adapted to receive a locking device in the form of a pin 22 which, as shown in Fig. 2, is relatively flat in cross section. The pin is received snugly within the intermediate bracket portion 17 and in the construction shown overlies the mounted bars 19. The pins 22 thus hold the bars against upward displacement.

The bars 19 are preferably made very thin, considerably thinner than appears on the drawing. The mounting bars thus do not take up any considerable space and a maximum amount of reading matter can be mounted on the binder. As shown, the bars are mounted with their longer sides running vertically, so that they resist bending in their longitudinal planes and can thus support the heaviest magazines when the latter are suspended therefrom when the binder is held with its intermediate portion or back 12 uppermost. As these mounting rods 19 are, however, of considerable length and are made of flat sheet metal or similar material, they are quite flexible in a direction transverse to their length. Consequently, if a binder having magazines mounted therein should be seized by one cover and held with the weight of the magazines exerted upon the flat sides of the bars, the latter will become bent or bowed and unless the end portions of the bars extending beyond the intermediate bracket portions 17 are made relatively long, there is danger of disengagement of the bars from the brackets. Even when the bars are sufficiently long to remain engaged with the brackets under the conditions referred to, the bending or bowing is nevertheless undesirable because it tends to distort the bars and tends to give the whole structure an appearance of insecurity.

In accordance with the invention, means are provided for restraining or preventing the bars from bowing transversely of their lengths to any considerable extent. To this end, the mounting structure for the bars is so devised that a more or less fixed length of bar is held secure to the anchoring brackets, the arrangement being such that no additional length of bar can be paid out when the bar is placed under lateral stress; as the length of the bar between the brackets is kept substantially constant, bending or bowing cannot take place. In the form of the invention illustrated, the fixed length of bar is determined by the position of stops or shoulders which engage a portion of the brackets and prevent endwise movement of the bar in either direction.

These stops or shoulders can be provided in a simple and inexpensive manner by forming notches 23 adjacent to the ends of the bars, the notches being of such shape that they are snugly engaged by the locking pins 22. These pins consequently hold the bars not only against upward displacement but also prevent bending or bowing of the rods by keeping substantially constant the length of the bar between the opposite pins. It will readily be seen that when any strain is placed laterally or transversely upon a mounted bar the outer wall or shoulder of each groove acts as a stop means which engages the associated locking device 22, preventing longitudinal or approximately longitudinal movement of the end portions of the bar out of the brackets. As no additional bar length is paid out, bowing or bending of the bar is prevented. The mounted magazines are thus held rigidly and neatly in their allocated positions in all positions of the binder, and this in spite of the fact that the mounting structure may all be made of thin sheet metal.

The manner of mounting the magazines or other matter will be readily understood from the drawing. A bar 19 is passed through the middle fold of the magazine, shown at 26 in Fig. 1, and after the locking devices 22 have been withdrawn the proper distance by engaging the bent ends 24 acting as finger-pieces, the projecting ends of the bar are then lowered into oppositely aligned slots 20 until the lower edge of the bar rests upon the ledges or flanges 21. The bar is so positioned that the notches 23 are approximately in alignment with the looped portions 17. Exact alignment is not necessary as the pins 22, upon being slid into their final positions engage the walls of the notches and cam the bar into the final position shown in Fig. 2, in which position the locking devices 22 engage the outer walls and preferably also the inner walls of the notches.

When the bars are completely detachable from the mounting brackets, as in the embodiment illustrated in the drawing, the ends of the bars may be so shaped that one end can be mounted upon its bracket while the locking pin is in its operative position, thereby making it unnecessary to withdraw such pin. This may be accomplished by making the end portions of the bars extending beyond the grooves sufficiently small with relation to the distance between the bottom of the pin 22 and the top edge of the flange 21; or else the lower corners of the bars may be rounded off, as shown at 25. A bar 19, as shown in dot-and-dash lines in Fig. 2 may be engaged under the pin 22 in the manner of a hook and then swing downward, after the magazine has been folded thereabout, into the slot on the opposite bracket whose locking pin has been withdrawn. The pin of the latter bracket is then moved into locking position. A bar can similarly be demounted from the binder by withdrawing only one of the locking pins 22.

In addition to providing shoulders or hook portions for engagement with the locking pins 22, the notches 23 also serve to space the mounting bars longitudinally of their length with reference to the opposite brackets. The ends of the bars are thus permanently in alignment at both brackets and the neatness of the structure is enhanced.

It will be obvious that the provision of means for keeping constant the length of the mounted bars between the opposite brackets and thereby restraining the bars from bowing, is independent of any specific construction of the brackets or number or arrangement of slots for receiving the ends of the bars. Various other changes can be resorted to by those skilled in the art within the

scope of the appended claims, without departing from the spirit of the invention.

I claim:

1. A binder having devices for mounting reading matter thereon and including a pair of mounting brackets, mounting bars adapted to be interengaged with the brackets, shoulders on the ends of the bars, a locking device movable over the ends of the mounted bars into position to be engaged by said shoulders to hold the bars against bowing, the ends of the bars being rounded to enable the bars to be pivoted about said locking device to release the same from or engage the same with the locking device while the latter is in its operative position and the other ends of the bars are free.

2. A binder having mounting brackets at the opposite ends of the intermediate portion thereof, a plurality of flat mounting bars adapted to be received at opposite ends in said brackets with their wider sides running normal to said intermediate portion, said bars being provided with shoulders adjacent to their ends, and locking devices movable into position for engagement by said shoulders, and acting to hold the mounted bars against bowing, the ends of the bars being so dimensioned that an end of each bar can be inserted into the corresponding bracket into locking engagement with the locking device or can be disengaged from the locking device while the latter is in its operative position by pivotal movement about said device.

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