F. L. MANNY.

BINDER RACK.

APPLICATION FILED AUG. 5, 1918.

1,401,171. **Patented Dec. 27, 1921.**

Fig. 1.

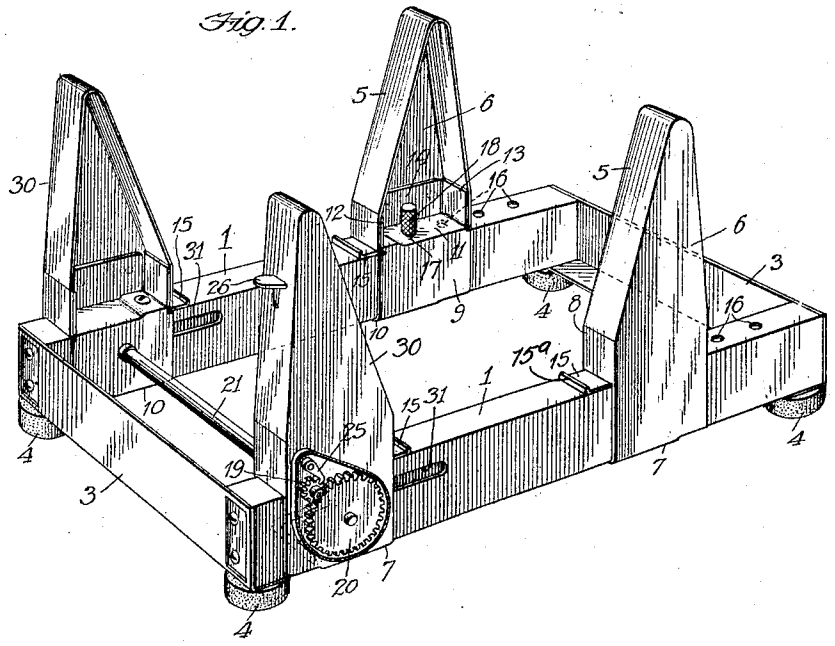


Fig. 2.

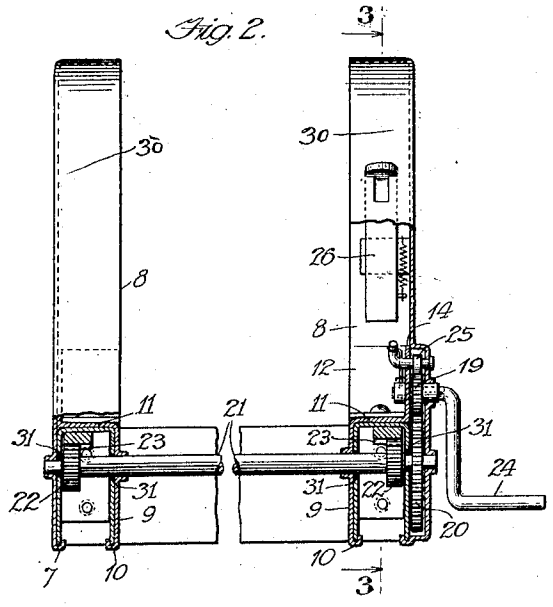
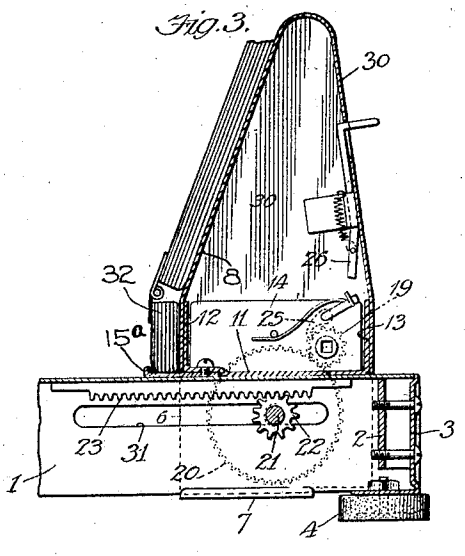


Fig. 3.



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UNITED STATES PATENT OFFICE.

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BINDER-RACK.

1,401,171. Specification of Letters Patent. Patented Dec. 27, 1921.

Application filed August 5, 1918. Serial No. 248,298.

To all whom it may concern:

Be it known that I, FRED L. MANNY, a citizen of the United States, residing at Benton Harbor, in the county of Berrien and State of Michigan, have invented certain new and useful Improvements in Binder-Racks, of which the following is a specification.

My invention has for its general purpose and object the provision of a convenient and desirable holder or supporting frame adapted to be used in connection with a loose leaf book of a type now in extended use for commercial purposes and comprising opposite lids or covers hinged to base plates which are extensibly connected together on opposite sides of a body of entry sheets by means of binder posts and clamping mechanism. My binder rack is designed to afford a convenient stand or base upon which the binder covers may rest and be clamped together and the book supported in closed position when it is not in use, and also to support the covers spread apart and separated to any extent desired when the book is being used in connection with an adding and listing machine such as is in common use for posting entries on the sheets, or while posting items by hand. With the foregoing object and requirements in mind I have devised and invented the novel binder rack illustrated in the accompanying drawings and hereinafter more fully described, and my invention consists in various new combinations of coöperating parts and the construction and arrangement of the members of the structure, as more particularly pointed out in the appended claims.

In the drawings Figure 1 is a perspective of my novel binder frame; Fig. 2 is a rear elevation, parts of the frame and casing members being broken away to show the arrangement of gears for shifting the rear blocks backward and forward; and Fig. 3 is a fragmentary vertical section taken on the line 3—3 of Fig. 2.

The same reference numerals indicate the same parts in all the figures of the drawings.

The base of my adjustable binder rack consists of a rigid rectangular frame which may be constructed in any suitable manner to form a suitable support for the adjustable posts or blocks and the interposed binder. In the present instance, and preferably, the side members of the frame consist of hollow sheet metal bars 1—1 of inverted U-shape in cross-section, within the ends of which are fastened by spot-welding three-sided sheet metal blocks 2 affording points of attachment for screws securing the flanged end bars 3—3 to the side bars. Felt disks 4 are preferably secured to the frame at its four corners to prevent marring the surface of furniture upon which the rack may be placed.

Slidingly mounted upon the opposite side bars 1—1 of the frame are two sheet metal posts or blocks 5—5 which, as shown, may each be conveniently constructed of an outer sheet metal member comprising an outer face portion 6, having a lower recurved flange 7 slidingly engaging the outer member of the adjacent side bar 1, an upper right angled flange 8, and an inner sheet metal member comprising an inner face portion 9 having a lower recurved flange 10 slidingly engaging the inner member of the side bar, a right angled portion 11 parallel with the top face of the side bar, and attaching flaps 12, 13 and 14 welded to the outer member. Projecting rearwardly from the two blocks are two brackets 15 which in the present instance extend into recesses formed for them by a slight offset in the section 12 of the post member and are secured therein by screws.

Each side plate is formed with a series of holes 16, and the section 12 of the post is formed with a hole 17 which may be brought into registration with one or the other hole in the bar, and shouldered pins 18 are provided whereby the two posts may be secured to the side bars at any corresponding positions desired.

The rear posts 30 are in the present instance constructed similarly to the front ones, but are provided with gearing by means of which they may be shifted in unison by a continuous movement to any point desired. To accomplish this result there is rotatably mounted upon one rear post, within a housing plate secured to its outer face portion, a small pinion 19 meshing with a larger gear wheel 20 fixed to a cross-shaft 21 which extends through and is journaled in both sides of the posts, elongated slots 31 being formed in the side bars 1—1 to permit movement of the posts.

Within the depending members of each side bar is arranged a pinion 22 secured to the shaft 21, and these pinions are arranged to mesh with racks 23—23 secured to the

under side of the top or cross member of the side bar. The arbor of the pinion 19 is formed with a squared socket adapted to cooperate with a key or small crank 24 by which it may be turned. A spring-pressed pawl 25 coöperating with pinion 19 is provided to prevent backward rotation of the pinion, and a spring pressed releasing slide 26 arranged to be manually shifted to oscillate a short crank fixed to the pivot of the pawl is also provided to enable the pawl to be lifted out of engagement and thus permit the turning of the pinion in a reverse direction.

It is obvious from the foregoing description, that by turning the crank 24 the rear posts 30 may be continuously moved forward toward the posts to clamp the interposed binder as tightly as desired, and by releasing the pawl 25 through operation of the slide 26 the rear posts can be shifted rearwardly to the limit of their movement. The forward posts can be set by means of the pins and sockets to accommodate the binder, whatever the number of sheets it may contain and whatever its consequent size, and the two adjustments further provide for spreading and holding the covers so that the leaves will be accessible and may be removed for the entry of items in the use of the book.

The proximate faces of the posts or blocks 5 and 30 are inclined from the perpendicular away from each other, and the brackets 15 are formed with horizontal supporting portions and short upwardly extending retaining flanges 15ª providing recesses or seats to retain the lower edges of the binder covers, so that when the clamping mechanism of the binder is released and the covers separated and laid outwardly against the inclined faces of the posts, the lower edges of the base plates 32 of such covers, see Fig. 3, will be retained in the seats on the brackets (the covers bending at the hinge line between the base portion of the cover and the cover proper), and restrained from sliding inwardly on the top of the side bars against the leaves.

I claim:

1. In a binder rack, a rectangular frame, a pair of front posts slidingly mounted on the side members of said frame, means for securing said posts to said side members, and a pair of rear posts also slidingly mounted on the side members of said frame and gear means including a rack and pinion arranged to shift said rear posts in unison toward and from said pair of front posts.

2. In a binder rack, a rectangular frame, a pair of front posts slidingly mounted on the side members of said frame, means for securing said posts to said side members, a pair of rear posts also slidingly mounted on the side members of said frame, a pair of racks fixed respectively to the said side members and a manually operable train of gearing mounted upon said rear posts and arranged to coöperate with said racks to shift such posts in unison.

3. A binder rack structure according to claim 2 in which the train of gearing includes a cross-shaft journaled in the rear posts and equipped adjacent its opposite ends with pinions coöperating with said racks.

4. A binder rack structure according to claim 2 in which the side bars of the frame are formed of sheet metal and hollow, and the train of gearing includes pinions housed within such side bars.

5. In a binder rack, a rectangular frame, a pair of front posts slidingly mounted on the side members of said frame, means for securing said posts to said side members, a pair of rear posts also slidingly mounted on the side members of said frame, a pair of racks fixed respectively to the said side members, a manually operable train of gearing mounted upon said rear posts and arranged to coöperate with said racks to shift such posts in unison, a detent arranged to prevent movement of said gearing in a direction to move the rear posts away from the front posts, and means for disabling said detent.

6. In a binder rack arranged to support the covers of a loose leaf binder, a rectangular frame and front and rear posts slidingly mounted on the side members of said frame, said posts being each equipped adjacent the top surface of the side members with a bracket having a horizontal portion and a terminal vertical bend adapted to hook under the lower edge of the cover of the binder and engage the inner face of such cover, and means for securing said posts in positions of adjustment.

7. In a binder rack arranged to support the covers of a loose leaf binder, a rectangular frame and front and rear posts slidingly mounted on the side members of said frame, said posts being each equipped adjacent the top surface of the side members with a bracket having a horizontal portion and a terminal vertical bend adapted to hook under the lower edge of the cover of the binder and engage the inner face of such cover, the proximate faces of said posts being inclined from their base portion outwardly toward their top.

8. In a binder rack arranged to support the covers of a loose leaf binder, a rectangular frame and front and rear posts mounted on said frame, said posts being each equipped adjacent the top surface of the frame with a bracket having a horizontal portion and a terminal vertical bend adapted to hook under the lower edge of the cover of the binder and engage the inner face of such cover, and said front and rear posts being relatively adjustable.

FRED L. MANNY.