J. W. MYATT.

LOOSE LEAF BOOK OR BINDER.

APPLICATION FILED APR. 4, 1921.

1,412,701.

Patented Apr. 11, 1922.

2 SHEETS—SHEET 1.

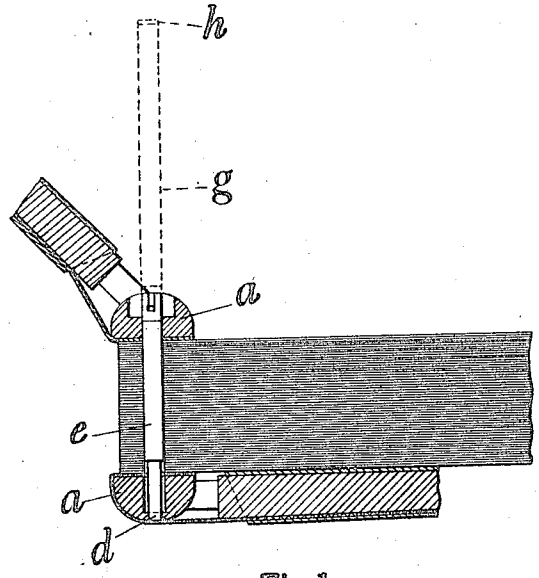


Fig.1

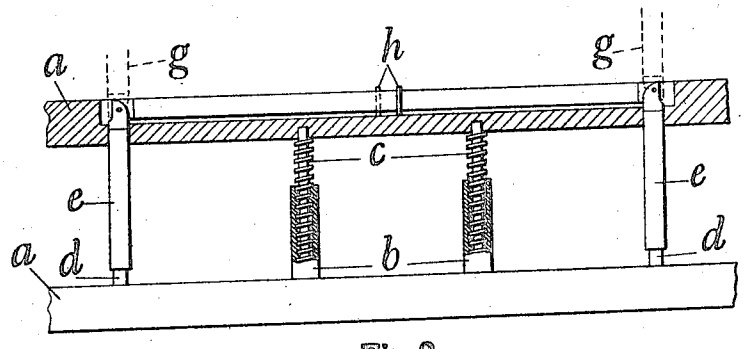


Fig.2

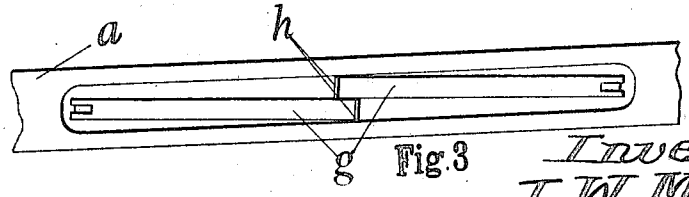


Fig.3

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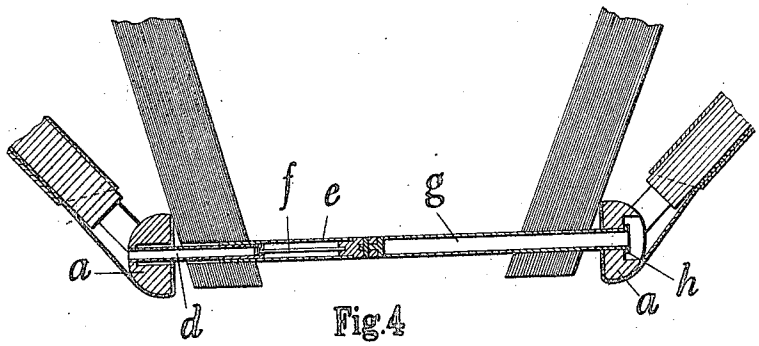


Fig.4

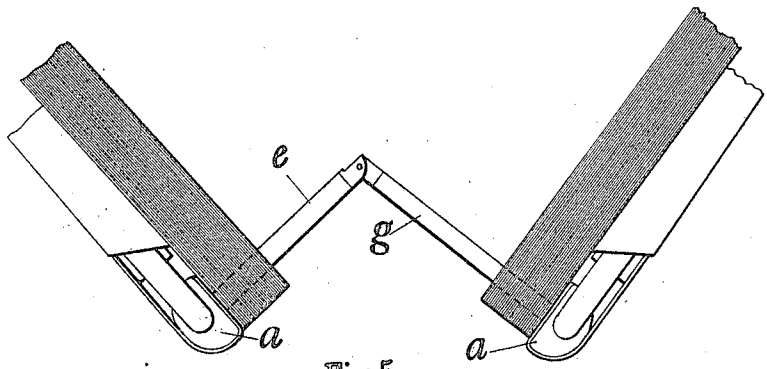


Fig.5

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UNITED STATES PATENT OFFICE.

JOHN WILLIAM MYATT, OF TIPTON, ENGLAND, ASSIGNOR TO LEDGERS LIMITED, OF TIPTON, ENGLAND.

LOOSE-LEAF BOOK OR BINDER.

1,412,701. Specification of Letters Patent. Patented Apr. 11, 1922.

Application filed April 4, 1921. Serial No. 453,180.

To all whom it may concern:

Be it known that I, JOHN WILLIAM MYATT, a subject of the King of Great Britain and Ireland, residing at 37 Victoria Road, Tipton, in the county of Stafford, England, have invented certain new and useful Improvements Relating to Loose-Leaf Books or Binders, of which the following is a specification.

This invention has for its object to provide improved loose leaf books or binders of the type in which posts adapted to be engaged by the leaves and arranged between a pair of parallel clamping bars are employed.

The invention comprises the arrangement of telescopic posts to pass freely through one of the clamping bars, and the provision of a hinged or other extension on each post at the end which passes through the said bar. The invention also comprises the adaptation of the hinge connection between the telescopic post and its extension, or a hinge connection at any other position in the post, to permit of the post being cranked so that when the book is opened out or extended the leaves can lie perfectly flat on either of the covers.

Referring to the two accompanying sheets of explanatory drawings:—

Figure 1 is a side elevation and Figure 2 a rear elevation partly in section of a part of a loose leaf book provided with this invention.

Figure 3 is a plan of a portion of the upper clamping bar.

Figures 4 and 5 are diagrams illustrating two positions in which my improved posts can be used when the leaves are released and the book extended.

In the application of the invention as shown to a loose leaf book or binder, one of a pair of parallel clamping bars *a* is fitted with laterally projecting internally screwed rotatable sleeves *b* for engaging screws *c* connected to the other bar, this being a known device for causing the bars to grip or release the leaves. Also a plurality of plain telescopic posts is arranged in conjunction with the bars. Each post consists of two or more telescopic parts *d* and *e*, one (*d*) being secured to one of the bars, and the other (*e*) free to slide through the other bar. Complete separation of the telescopic parts is prevented by any convenient means such as an internal wire *f* connected to one of the parts and headed to engage an internal shoulder on the other when the parts are extended, as shown in Figure 4. On the outer end of each post *e* is hinged by means of a knuckle joint an extension *g* which when not in use is folded down to lie unobstructively in a recess in the outer side of the clamping bar through which the post passes. The maximum number of leaves used in the book is such that the extensions are inoperative when the leaves are secured. All the normal adjustments to suit different numbers of leaves are effected by the telescopic parts. The purpose of the extensions is to enable the clamping bars to be opened out or separated to a greater extent than is possible without the extensions.

The manner of mounting the leaves between the clamping bars and on the posts is the same as heretofore, the leaves being provided at or near their rear edges with slotted holes through which the posts pass. Slotted holes are also provided for the reception of the above mentioned sleeves and screws.

When it is required to remove or exchange any of the leaves, the screws *c* are disengaged from the sleeves *b*, and with the extensions *g* turned into line with the posts *e* the clamping bars are separated to the maximum extent permitted by the extensions, complete detachment of the clamping bar which slides on the posts being prevented by shoulders *h* at the outer ends of the extensions or other suitable means. The distance between the clamping bars is now such that the leaves can be manipulated with great ease, and with a minimum of risk of tearing or other deterioration of the leaves. As the portion of the post to which the extension is connected is free to rotate about its longitudinal axis, the complete post may be arranged to be rigid when extended as shown in Figure 4, the axis of the knuckle joint being in such a position that the post parts do not tend to yield relatively under the weight of the leaves resting upon them.

In mechanical posting it is desirable that the leaves supported on one or both of the covers should lie perfectly flat when the book is open and the covers lie in the same horizontal plane, or are supported at an angle to

each other as shown in Figure 5. To enable this condition to be obtained the posts are turned into such a position that each post can be cranked at its knuckle joint. The parts of each post are then disposed at an angle to each other and in this position the leaves can lie quite flat.

In some cases it may be advantageous to employ detachable extensions connected to the posts, by screw joints or other means, instead of the hinged extensions above described. If it is also then desired to crank the posts when the book is opened out, a knuckle joint is provided at any convenient position in the main part of each post or its extension.

The invention is not limited to use with screw mechanism for drawing the clamping bars together, as it is applicable to other types of binding mechanisms in which posts are employed for positioning and retaining the leaves.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:—

1. In loose leaf books or binders, the combination of a pair of clamping bars, telescopic posts secured at one end to one of the clamping bars and arranged to pass freely through apertures in the other bar, and extensions on the outer ends of the posts, substantially as described.

2. In loose leaf books or binders, the combination of a pair of clamping bars, telescopic posts secured at one end to one of the clamping bars and arranged to pass freely through apertures in the other bar, and hinged extensions on the outer ends of the posts, substantially as described.

3. In loose leaf books or binders, the combination of a pair of clamping bars, telescopic posts secured at one end to one of the bars and arranged to pass freely through apertures in the other bar, a knuckle joint in each post enabling the posts to be cranked when the binder is extended, substantially as described.

4. In loose leaf books or binders, the combination of a pair of clamping bars, telescopic posts secured at one end to one of the bars and arranged to pass freely through the other bar, extensions on the posts, and a knuckle joint between each post and its extension, said joint permitting the post and extension to be cranked relatively when the binder is extended, substantially as described.

In testimony whereof I have signed my name to this specification.

JOHN WILLIAM MYATT.