

H. HELLWEG.
LOOSE LEAF BINDER.
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1,035,087.

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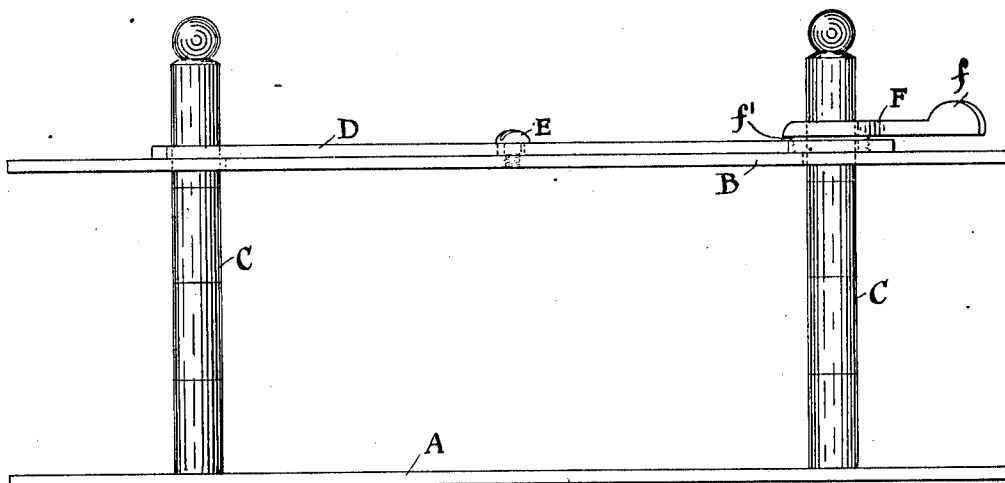


Fig. 1



Fig. 2

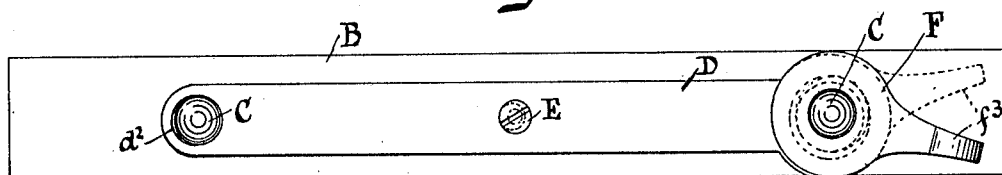


Fig. 3

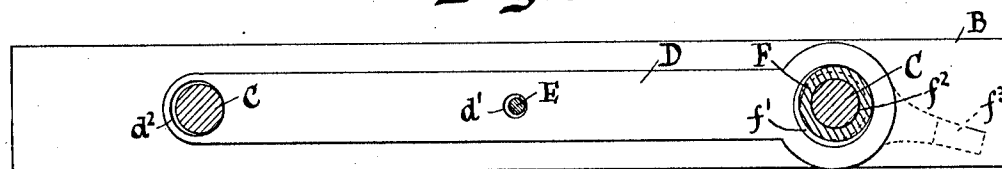


Fig. 4

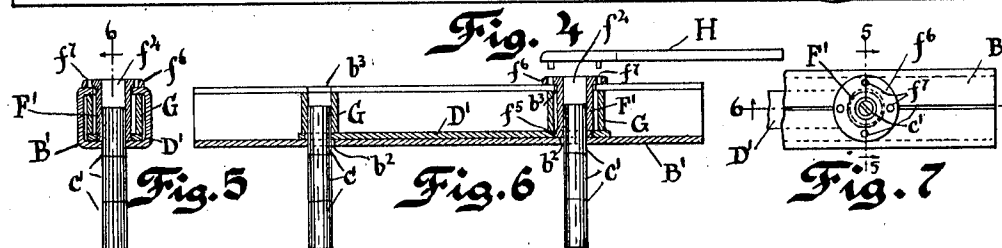


Fig. 5

Fig. 6

Fig. 7

Witnesses

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LOOSE-LEAF BINDER.

1,035,087.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HENRY HELLWEG, of Milwaukee, Wisconsin, have invented a Loose-Leaf Binder, of which the following is a specification.

This invention relates to loose-leaf binders, and has for its object to provide a simple, cheap and effective means for clamping one of the back-bars of a binder in any desired position.

The invention has special application to those forms of binders having sectional posts, and when so used, has for a further object to provide a form of back-bar, which avoids the necessity of having the ends of the post project beyond the bar.

According to my invention, I provide upon the face of an ordinary back-bar sliding upon the post of the binder, a clamping-member in the form of a bar, having an aperture at one end passing over one of said posts, and an internally threaded aperture at the other end passing over the other post, together with a manipulating-member having an aperture fitting over said second-post and turning thereon, as on a pivot, and an external screw-thread eccentric with the aperture and engaging the screw-thread on said first-named member; the effect of turning said manipulating-member being to force the two posts apart through a distance slight but sufficient to cause them to engage frictionally the edges of the apertures in the back-bar through which they pass.

In a more elaborate form of the device for sectional-posts, I may provide a box-shaped back-bar adapted to hold and contain the projecting ends of the post, whereby the latter are prevented from projecting in an inconvenient and unsightly manner, as is customary according to present constructions.

To enable my invention to be fully understood, I have illustrated the same in the accompanying drawings, wherein—

Figure 1 is a side-view of the metal-portions of a binder-back constructed in accordance with my invention, any cloth or paper filling or covering being omitted; Fig. 2 is a fragmentary longitudinal section through the upper portion of the same, taken in the plane of the post-axes, and fragments of the posts being shown in elevation; Fig. 3 is a plan-view of the same; Fig. 4 is a plane-section taken in the plane of the upper surface of the clamping-bar; Figs.

5, 6 and 7 show an alternative form of the invention, Fig. 5 being a vertical transverse section taken on the plane 5, Fig. 6 a longitudinal section in the plane 6, and Fig. 7 a fragmentary plan-view of the right-hand end; and Fig. 8 is a perspective view of the eccentric-member shown in Figs. 1 to 4.

The reference letters refer each to the same part in each figure of the drawings.

In the simpler form shown in Figs. 1 to 4, the two back-plates are designated by the letters A and B, and the two posts C being mounted upon the lower plate A and sliding through apertures b' in the plate B. Upon the latter lies the clamping-bar D, which is loose upon the back-plate and may be held in position by the head of a screw E mounted as shown upon the plate, and the aperture d' in the bar D through which the screw E passes being made somewhat larger than the shank of said screw as shown, so as to permit a slight movement of the clamping-bar. At one end, the left-hand end in the drawing, the bar D has an aperture d^2 through which the left-hand post C passes, and at the other end it has a threaded aperture d^3 in which engages the thread f' of an eccentric-piece F, said eccentric-piece being perforated with a central aperture f^2 , through which the other post C passes; the eccentric-piece being thus, in effect, journaled upon said post. A manipulating-handle f^3 is conveniently provided upon the piece F for throwing it into clamping and releasing positions.

Now it will be observed that the screw-thread f' is slightly eccentric with respect to the central aperture f^2 as shown clearly, and also somewhat exaggerated in Fig. 8; whereby the angular movement of the eccentric-piece varies the distance between the two holes d^2 and f^2 , and thereby throws them into or out of register with the two holes b' . In only one angular position of the eccentric-piece F do the holes d^2 and f^2 register with the holes b' , so as to release the posts; in shifting the eccentric-piece, as indicated by the dotted and full-line positions in Fig. 3, the holes d^2 and f^2 are moved closer together or farther apart, thereby jamming the two posts C between the holes b' , d' and f^2 as clearly indicated by the open spaces in Fig. 2, in which the clamped position of the post is shown. The eccentric-piece F cannot of course be rotated through an entire revolution so long as the clamping-

plate remains upon the post, and therefore the eccentric-piece cannot become accidentally detached; but it is unscrewed by removing the clamping-plate from the post.

5 The other form of device shown in Figs. 5, 6 and 7 is especially adapted to sectional posts. The two posts C are supposed to be composed of short-sections c' united end to end by any of the well-known means or devices common to the art. In place of the
10 sliding back-plate B, I use a back-plate B' which is in the form of a closed box of rectangular section as shown; this box is deep enough so that the ends of the sections c'
15 at no time project therefrom. As before, the back-plate B' is provided with apertures through which the posts pass, said apertures being in this case double, and the lower ones being designated b^2 and the upper ones b^3 . A clamping-bar D' is used
20 which is in all respects similar to the clamping-bar D, except that the aperture d' and the screw E are omitted in this case; said clamping-bar is held in position by a pair of
25 spacing-sleeves G. The eccentric-piece F' is in this case in tubular form having a central aperture f^4 through which the post passes and an eccentric-thread f^5 on its lower end engaging the internal thread on the bar D'; and instead of the handle f^3 the eccentric-piece has a flange f^6 on the upper face
30 of the bar B', said flange being perforated with apertures f^7 , whereby it may be turned by the application of the pin-wrench H; this is merely one of many similar means of
35 rotating the piece F'.

It will be apparent that should the top of the end-sections c' project beyond the upper face of the plate B', said sections can be
40 unscrewed and removed as is necessary, because in this case the clamping will be performed against the next lower section, so that the objectionable projecting ends of the posts are avoided.

45 I wish it understood that my invention is not limited to the use of all the above described features and constructions, for some may be omitted and others may be varied or modified in various ways, as will readily
50 occur to those skilled in the art.

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

1. In a loose-leaf binder, in combination
55 with a pair of clamping-bars and a pair of posts, one of said bars having a pair of apertures through which said posts pass whereby the bar slides upon the posts, a clamping member mounted upon said sliding-bar and
60 having an aperture at one end through which one of said posts passes and a screw-thread at the other end, and a manipulating-member having an aperture through which the second post passes, and a complementary
65 screw-thread engaging said first-named

thread and eccentric to the aperture in said manipulating-member; whereby the rotational movement of said manipulating-member causes a longitudinal relative movement of the respective apertures in the two members. 70

2. In a loose-leaf binder, in combination with a pair of clamping-bars and a pair of posts, one of said bars having a pair of apertures through which said posts pass whereby
75 the bar slides upon the posts, a clamping-member mounted upon said sliding-bar and having an aperture at one end through which one of said posts passes and an internally screw-threaded aperture at the other end
80 through which the other post passes, and a manipulating-member having an aperture through which the second post passes and an external screw-thread engaging said internal thread and cut upon said manipulating-member eccentric to the aperture therein,
85 whereby the rotational movement of said manipulating-member causes a longitudinal relative movement of the respective apertures in the two members. 90

3. In a loose-leaf binder, in combination with a pair of clamping-bars and a pair of posts, one of said bars having a pair of apertures through which said posts pass whereby
95 the bar slides upon the posts, a clamping-member mounted upon said sliding-bar and having an aperture at one end through which one of said posts passes and a screw-thread at the other end, a manipulating-member having an aperture through which
100 the second post passes, and a complementary screw-thread engaging said first-named thread and eccentric to the aperture in said manipulating-member, whereby the rotational movement of said manipulating-member
105 causes a longitudinal relative movement of the respective apertures in the two members; and means holding said clamping-member fast to said sliding clamping-bar but permitting a longitudinal sliding-movement thereof with respect thereto. 110

4. In a loose-leaf binder, in combination with a pair of clamping-bars and a pair of posts, one of said bars having a pair of apertures through which said posts pass
115 whereby the bar slides upon the posts, a clamping-member mounted upon said sliding-bar and having an aperture at one end through which one of said posts passes and an internally screw-threaded aperture at the other end through which the other post
120 passes, a manipulating-member having an aperture through which the second post passes, and an external screw-thread engaging said internal thread and cut upon said manipulating-member eccentric to the aperture therein, whereby the rotational movement of said manipulating-member causes a longitudinal relative movement of the respective apertures in the two members; and
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means holding said clamping-member fast to said sliding clamping-bar but permitting a longitudinal sliding movement thereof with respect thereto.

5 5. In a loose-leaf binder, in combination with a pair of clamping-bars and a pair of posts, one of said bars having a pair of apertures through which said posts pass whereby the bar slides upon the posts, a
10 clamping-member mounted upon said sliding-bar and having an aperture at one end through which one of said posts passes and an internally screw-threaded aperture at the
15 other end through which the other post passes, a manipulating-member having an aperture through which the second post passes and an external screw-thread engaging said internal thread and cut upon said
20 manipulating-member eccentric to the aperture therein, whereby the rotational movement of said manipulating-member causes a longitudinal relative movement of the
25 respective apertures in the two members, said clamping-member having a third aperture therein, and a screw having a diameter smaller than said aperture and a head larger than said aperture, said screw passing through said aperture and being mounted upon the sliding clamping-bar.

30 6. In combination with a pair of sectional posts, a box-shaped back-bar having a pair of transverse apertures through which said posts are adapted to pass, a longitudinal
35 bar-shaped clamping-member lying within the back-bar and having a pair of apertures, one of which fits over one of said posts, and the other over the other post, the last-named aperture being internally threaded, and a
40 second clamping-member in the form of a sleeve fitting over and turning on the second post and having an external thread engaging the internal thread of said first-named clamping-member and being eccentric
45 with respect to the post on which it turns, said second-member being disposed within said back-bar and having means exterior to said back-bar for rotating it.

7. In combination with a pair of sectional posts, a box-shaped back-bar having a pair

of transverse apertures through which said 50 posts are adapted to pass, a longitudinal bar-shaped clamping-member lying within the back-bar and having a pair of apertures, one of which fits over one of said posts, and the other over the other post, the last-named 55 aperture being internally threaded, and a second clamping-member in the form of a sleeve fitting over and turning on the second post and having an external thread engaging the internal thread of said first-named clamping-member and being eccentric 60 with respect to the post on which it turns, said second-member being disposed within said back-bar and having an enlarged head lying on the outer surface of said back-bar and provided with means for 65 rotating it.

8. In combination with a pair of sectional posts, a box-shaped back-bar having a pair of transverse apertures through which said 70 posts are adapted to pass, a longitudinal bar-shaped clamping-member lying within the back-bar and having a pair of apertures, one of which fits over one of said posts, and the other over the other post, the last-named 75 aperture being internally threaded, a second clamping-member in the form of a sleeve fitting over and turning on the second post and having an external thread engaging the internal thread of said first-named 80 clamping-member and being eccentric with respect to the post on which it turns, said second-member being disposed within said back-bar and having an enlarged head lying on the outer surface of said back-bar and 85 provided with means for rotating it; and a pair of independent sleeves surrounding said posts within said back-bar and abutting against the respective ends of said first-named member, whereby the latter is held 90 pressed against the inner lower face of said back-bar.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

HENRY HELLWEG.

Witnesses:

FLORENCE M. MALLON,

Mrs. HENRY F. SCHLESMT.