

No. 751,646.

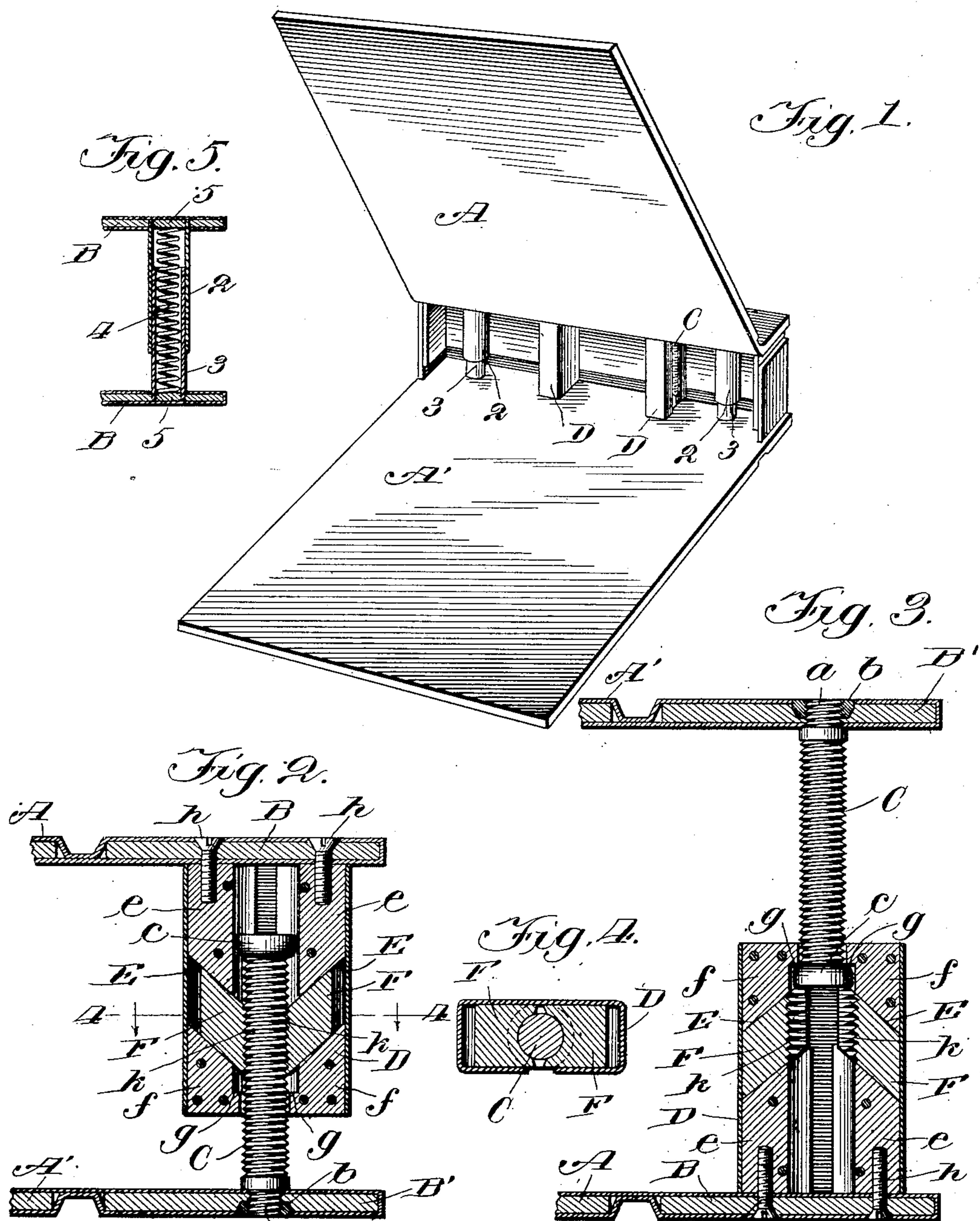
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A. D. HULQUIST.

LOCK FOR THE ADJUSTABLE BACK FRAMES OF ACCOUNT BOOKS.

APPLICATION FILED MAY 28, 1903.

NO MODEL.



Witnesses: A
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UNITED STATES PATENT OFFICE.

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LOCK FOR THE ADJUSTABLE BACK-FRAMES OF ACCOUNT-BOOKS.

SPECIFICATION forming part of Letters Patent No. 751,646, dated February 9, 1904.

Application filed May 28, 1903. Serial No. 159,110. (No model.)

To all whom it may concern:

Be it known that I, ANDREW D. HULQUIST, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Locks for the Adjustable Back-Frames of Account-Books, of which the following is a full, clear, and exact description.

The object of my invention is to provide a simple, cheap, and effective lock for the back-frames particularly of large books between the covers of which it is desired to removably retain sheets of matter which it may be desirable occasionally to use independently therefrom. This I accomplish by the means herein-after fully described, and particularly pointed out in the claims.

In the drawings, Figure 1 is a perspective view of the covers of a book having my improvements applied thereto. Fig. 2 is a vertical section, on a larger scale, of the back-frames of a book with the forward portion of the covers broken away intersecting one of my improved locks and showing the position of its operative parts when the covers are locked thereby against further separation. Fig. 3 is a similar view showing the book turned upside down and the relative position of said parts when the covers are unlocked and capable of being separated to the extreme. Fig. 4 is a horizontal section through said lock, taken on dotted line 4 4, Fig. 2, looking in the direction indicated by the arrows. Fig. 5 is a vertical section through the back-frames of the book intersecting the telescopic tubular posts within which is the expansion-spring for keeping said back-frames apart.

In the drawings, A A' represent the upper and lower covers of an account-book or invoice-book, or a book of similar character in which it is desired to removably retain records of any kind in sheet form. These covers are preferably connected by a flexible joint to the clamping-plates B B', respectively, of the back-frame, which consist of metal strips of a length corresponding to the width of the book and of suitable width. Secured to the lower

clamping-plate B' is a bolt C, which is secured in said plate by means of a short screw-threaded extension *a*, which is tapped through said frame and has its end extended through a suitable nut *b*, seated in the countersunk outer edges of the hole in which said extension enters. The remainder of the bolt C is greater in diameter than the extension *a*, and the portion thereof immediately next said extension is preferably perfectly cylindrical for a short distance, and the remainder of its length between said cylindrical portion and its enlarged opposite end *c* is screw-threaded or corrugated, substantially as shown. Thus when the extension of the bolt is screwed into the frame B as far as it will go the plate B' is clamped between the shoulder made by increasing its diameter and the nut *b* and securely and rigidly held in the relative position shown in the drawings. This bolt C extends from the back-frame B' up through a central opening in the unsecured end of a rectangular case D. This case consists, preferably, of a rectangular shell of sheet metal, the upper portion of which is filled between its sides by filler-blocks *e e* and the lower by filler-blocks *f f*, all of metal and so constructed as to leave a longitudinal central opening extending through said case, into which the bolt C extends, as hereinbefore explained. The diameter of the mouth of the central opening of the unsecured end of the case is restricted in transverse dimensions to provide shoulders *g g*, against which the enlarged end *c* of the bolt comes in contact to prevent further separation of the covers when the bolt is released, substantially as shown in Fig. 3 of the drawings. The faces of the contiguous ends of the filler-blocks *e* and *f* within the case D are oblique at an angle of about forty-five degrees (45°) to the axis of the bolt, and the spaces so left between these ends form runways or guideways E E, that incline down from the outer shell of the case from opposite sides thereof toward the free end of the same and in planes that meet at the axis of the bolt. Placed in these guideways E E are rhombohedron or other suitably shaped blocks F of such dimensions as to have

a slight reciprocal movement in said guideways to and from the bolt C. The edges of each of these blocks coming in contact with the side of the bolt are provided with an inverse screw-thread or with corrugations *k*, which engage and interlock with the sides of the bolt when the case is in such position that said blocks will gravitate toward the bolt, as shown in Fig. 2 of the drawings. The case D is secured to the clamping-plate B opposite the plate B', to which the bolt is secured, by means of the screws *h h*, and thus when the blocks *f* engage the bolt C, as shown in Fig. 2, the further separation of the clamping-plates and the covers connected therewith is prevented. By reversing the position of the covers, as by turning the book upside down, so as to bring the frame to which the bolt is secured uppermost and the frame to which the case D is secured undermost, the blocks F will gravitate in the guideways E away from the axis of the bolt and toward the shell of the case, and thus leave the bolt free, so that the covers can be separated, substantially as shown in Fig. 3 of the drawings.

It is desirable for the plates B B' to have a normal tendency to separate from each other. This I accomplish by means of a post comprising telescoping tubes 2 and 3, located one near each end of the frame B, one end of one of said posts being secured to one of said clamping-plates and the other of said tubes having its opposite end secured to the other of said clamping-plates and adapted to telescope into the former. A sufficiently strong expansion-spring 4 is housed within these tubes, and the ends thereof bear against the blocks 5 in the secured ends of said tubes and constantly resist the effort to compress said back-frames together. The consequence of the introduction of these posts is to keep the clamping-plates of the covers locked in any position in which it may be necessary to adjust them whether the book is resting on one side or the other; but when it is desired to separate the covers all it is necessary to do is to place the book so that the bolt and the case D will be in the relative position shown in Fig. 3 of the drawings and then slightly press the clamping-plates toward each other, and thus release and permit the blocks F to gravitate away from and release the bolt C.

What I claim as new is—

1. In a book the combination with clamping-plates, of a bolt secured to and projecting from one of said plates toward the other; and a suitable case secured to and projecting from the opposite plate into which said bolt extends; and two gravity-operated devices within said case separately interlocking with said bolt.

2. In a book the combination with clamping-plates, of a bolt secured to and projecting from one of said plates toward the other; and a suitable case secured to and projecting from the opposite plate into which said bolt extends;

and two gravity-operated devices within said case simultaneously engaging and separately interlocking with said bolt.

3. In a book the combination with clamping-plates, of a bolt secured to and projecting from one of said plates toward the other; and a suitable case secured to and projecting from the opposite plate into which said bolt extends; and two gravity-operated devices within said case simultaneously engaging and separately interlocking with said bolt at points diametrically opposite each other.

4. In a book the combination with clamping-plates, of a corrugated bolt secured to and projecting from one of said plates toward the other; a suitable case having a central longitudinal opening therein, into which said bolt extends and guideways oblique to said central opening; and two gravity-operated devices that have corrugated engaging edges and located within said case and separately engaging and interlocking with said bolt.

5. In a book the combination with clamping-plates, of a corrugated bolt secured to and projecting from one of said plates toward the other and having its unsecured end enlarged; a suitable case having a central longitudinal opening the mouth in the unsecured end of which through which the bolt passes into said case being restricted; and having guideways oblique to said central opening; and gravity-operated blocks in said guideways having corrugated engaging edges and separately engaging said bolt.

6. In a book, the combination with clamping-plates, one of which has a screw-threaded opening therein the outer end of which is countersunk; of a bolt having a short screw-threaded extension of reduced diameter at one end engaging said opening; a nut in said countersunk portion; a case secured to the opposite plate into the unsecured end of which said bolt extends longitudinally; and two gravity-operated blocks engaging said bolt at points diametrically opposite each other.

7. In a book the combination with clamping-plates, one of which has a screw-threaded opening therein the outer end of which is countersunk; of a bolt having a short screw-threaded extension of reduced diameter at one end engaging said opening and its opposite end enlarged; a nut seated in said countersink; a suitable case secured to the opposite plate having a central longitudinal opening the mouth in the unsecured end of which through which the bolt passes into the case being restricted; and two gravity-operated blocks engaging said bolt at points diametrically opposite each other.

8. In a book the combination with clamping-plates, one of which has a screw-threaded opening therein the outer end of which is countersunk; of a bolt having a short screw-threaded extension of reduced diameter at one end engaging said opening and its opposite end

enlarged; a nut seated in said countersink; a
case secured to the opposite plate having a
longitudinal central opening therein the mouth
in the unsecured end of which through which
5 the bolt passes into the case being restricted;
and having oppositely-located oblique guide-
ways therein communicating with said central
longitudinal opening; and gravity-operated

blocks in said guideways as and for the pur-
poses set forth. 10

In testimony whereof I have hereunto set my
hand this 20th day of April, 1903.

ANDREW D. HULQUIST.

Witnesses:

FRANK D. THOMASON,
E. K. LUNDY.