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PATENTED AUG. 20, 1907.

J. S. McDONALD.

BAFFLE FOR THE LOCKS OF THE ADJUSTABLE BACKS OF LOOSE LEAF BOOKS, &c.

APPLICATION FILED JAN. 23, 1906.

Fig. 1.

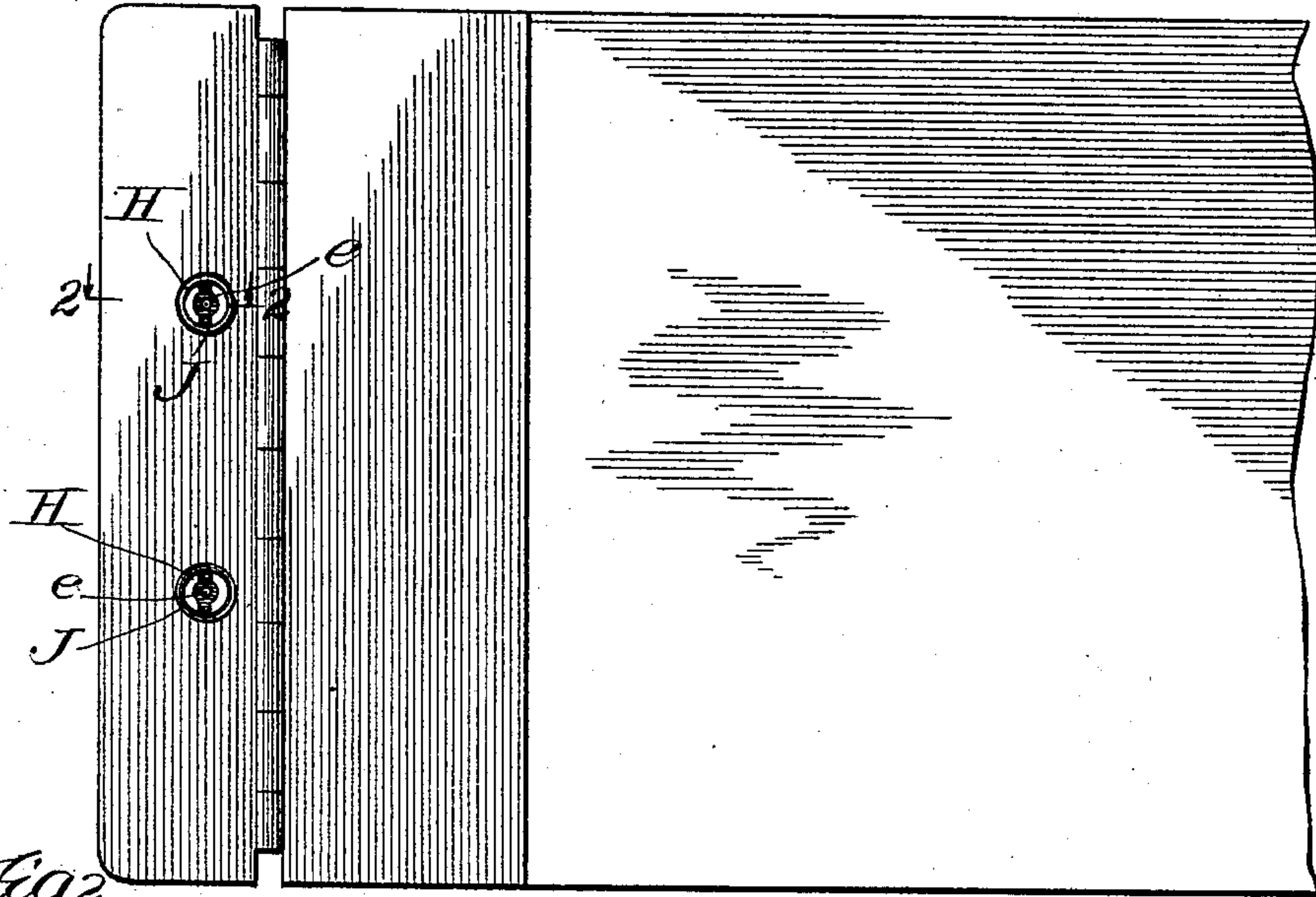


Fig. 2.

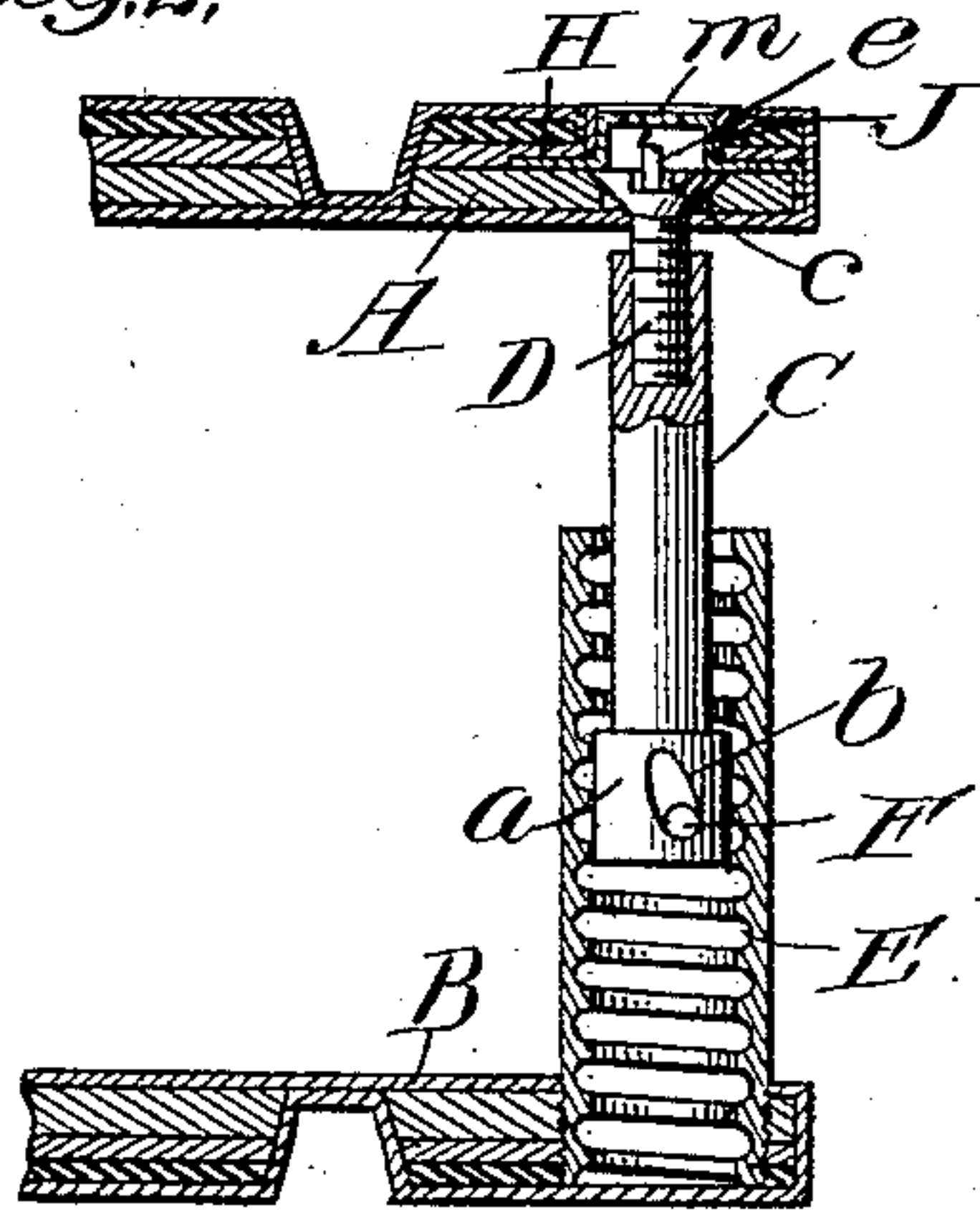


Fig. 6.

Fig. 3.

Fig. 4.

Fig. 5.

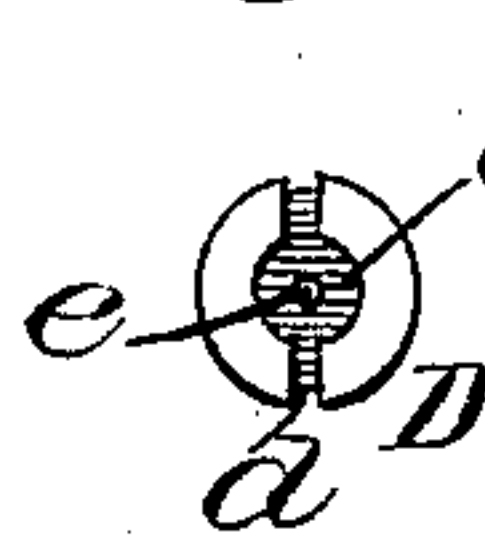
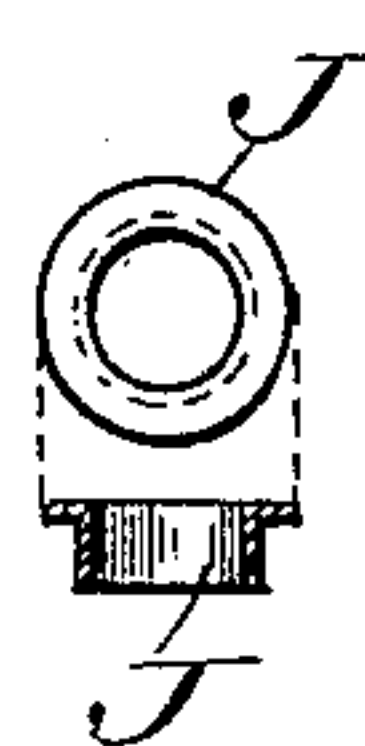
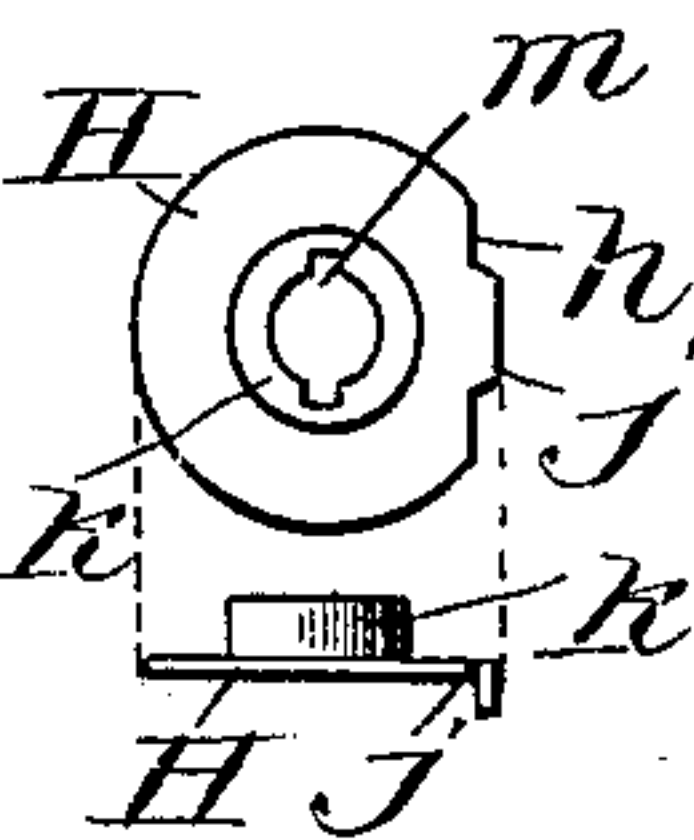


Fig. 8.

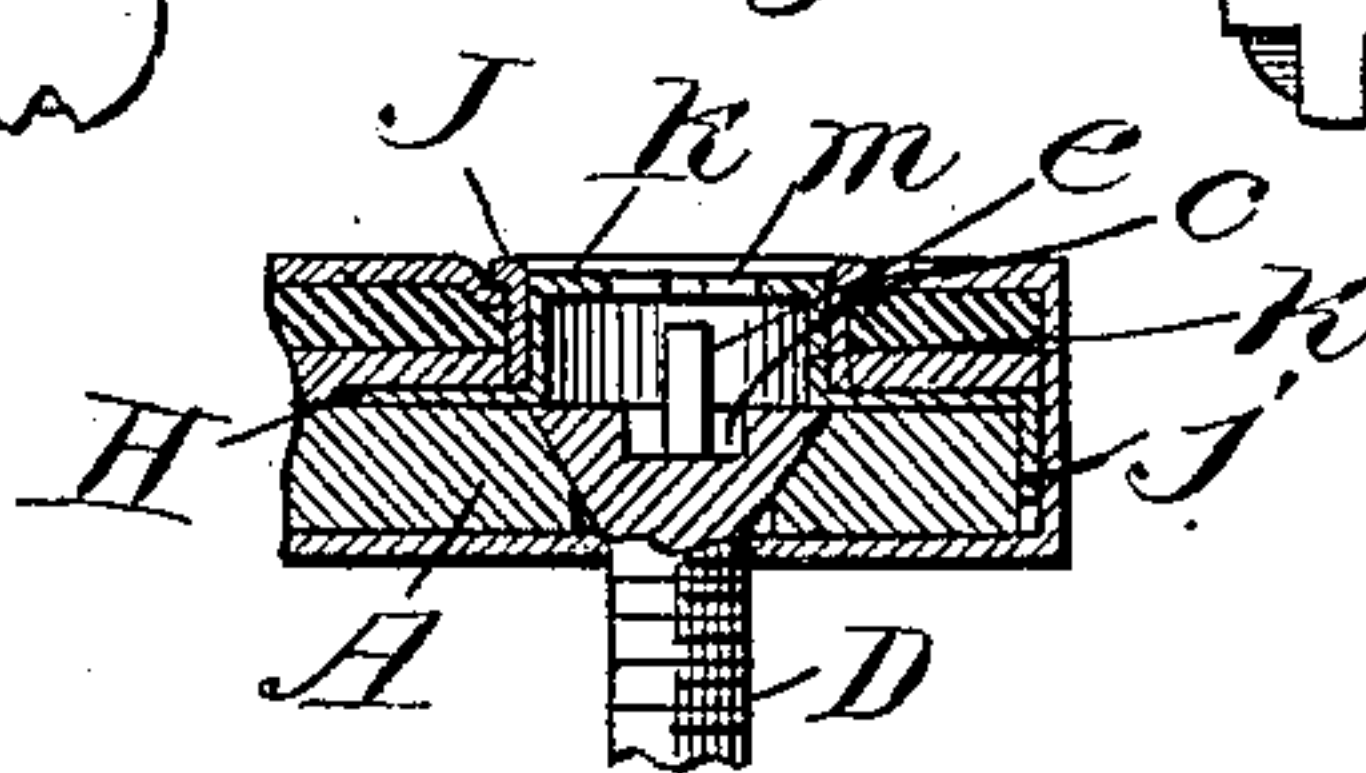
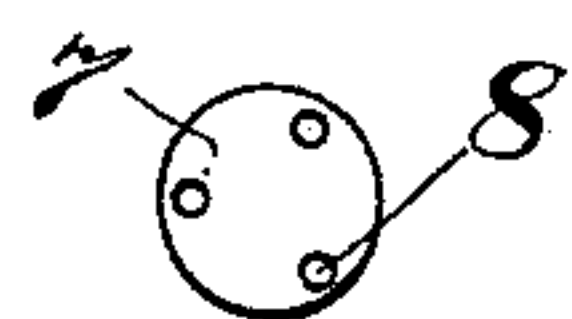
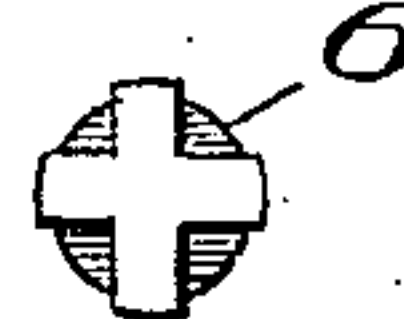
Fig. 9.

Fig. 10.

Fig. 11.



Fig. 12.



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Attg.

UNITED STATES PATENT OFFICE.

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BAFFLE FOR THE LOCKS OF THE ADJUSTABLE BACKS OF LOOSE-LEAF BOOKS, &c.

No. 864,136.

Specification of Letters Patent.

Patented Aug. 20, 1907.

Continuation of application filed December 30, 1904, Serial No. 238,962. This application filed January 22, 1906. Serial No. 297,348.

To all whom it may concern:

Be it known that I, JAMES S. McDONALD, 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 Baffles for the Locks of the Adjustable Backs of Loose-Leaf Books, &c., of which the following is a full, clear, and exact description.

Many of the locks for the adjustable backs of loose leafed binders now on the market, use a bolt that projects from one of the clamping-plates towards, and engages a mechanical contrivance secured to and projecting from the other clamping-plate, and, when the leaves are locked between these clamping-plates, the clamping pressure is increased so as to take up practically any further compressibility or looseness of the leaves, by tightening a screw, which is tapped longitudinally into the secured end of the bolt to hold it to the clamping-plate. When the leaves are clamped tightly together in this manner, the clamping-plates cannot be moved toward each other sufficient to permit the bolt to be unlocked, and until the screw referred to is moved so as to permit the compressed paper to expand somewhat, said clamping-plate will be inseparably locked together. An ordinary screw is used for this purpose, and any device having a flattened point can usually be employed to turn it, and thus put in the power of any person to unlock the clamping-plates.

The object of my invention is to avoid this possibility by a very simple cheap and effective baffle mechanism, substantially as hereinafter fully described and as particularly pointed out in the claims.

In the drawings:—Figure 1 is a plan view of a loose-leaf binder having my improvement applied thereto. Fig. 2 is a longitudinal section through the back portion of the same, taken on dotted line 2, 2, Fig. 1. Fig. 3 is a detail view showing both a plan and side elevation of the escutcheon used in connection with my invention. Fig. 4 is a similar view showing both a plan and side elevation of the eye thereof. Fig. 5 is an end view of the head of the screw of the same. Figs. 6 and 7 are views showing the key employed to unlock the clamping-plates. Figs. 8, 9, 10 and 11 are end views of modified forms of the head of the screw. Fig. 12 is a section taken on dotted line 2, 2, Fig. 1, of the upper portion of so much of the loose-leafed binder as is shown in Fig. 2, drawn to a larger scale.

My invention is particularly applicable to a lock for the adjustable backs of loose-leafed ledgers, etc., for which Letters Patent of the United States was granted to Andrew D. Hulquist, January 12, 1904, No. 749,560, and this application is a continuation of my original application for U. S. Letters Patent filed December 30, 1904, Serial Number 238,962. Briefly described, the lock referred to comprises the clamping-plates A and B of the

back of the book to which my improvements are applied, and between which the confined edges of the loose leaves are clamped; a bolt C projecting from one of said plates and secured to the same by means of a headed screw D extending through a suitable opening in said clamping-plate. This screw is tapped longitudinally into the body of the bolt, and by turning the screw in one direction the bolt draws the telescopic tube E farther upon its body thereby bringing the clamping-plate closer together, and by turning the screw in the opposite direction the expansion of the paper between the clamping-plates causes the bolt to move slightly out of said tube, the details of which will be hereinafter more fully described.

The unsecured end of the bolt enters a tube E secured to the other plate, and is increased in diameter to form a head *a*, which is provided with one or more elongated pockets *b* in its circumference arranged oblique to the axis of the bolt and increasing in depth as it extends from the extremity of said bolt.

The tube E has a restricted opening in its unsecured end through which the body of the bolt C passes, and a ball F is seated in each of these pockets which engages the inner corrugated circumference of said tube. These balls prevent the separation of the clamping-plates when the book is so placed that they will gravitate into the shallow end of the pockets *b*, and in practice the expansion of the loose leaves in the book prevents the accidental gravitation of the balls F into the deep ends of the pockets when the position of the book is the reverse of that shown in Fig. 2 of the drawings.

Ordinarily when it is desired to unlock or separate the clamping-plates of the binder, the book is placed so that the position of the bolt is the inverse of that shown in Fig. 2 of the drawings, and then the clamping-plates are pressed slightly together, to afford the balls F an opportunity to gravitate into the deeper ends of the pockets so that they will not engage the corrugated inner surface of the tube, and thus unlock the book. This can be done by any one, but when the clamping-plates have been manipulated so as to compress and confine the edges of the loose-leaves between them as much as can be done by ordinary manual effort, and the screw is manipulated by means of a suitable screw-driver, or ordinary substitutes therefor, to force the bolt farther into the telescopic tube by reason of the engagement between the balls and the spiral grooves on the inner circumference of the tube, the loose-leaves are clamped so tightly that further compressibility of their confined ends is impossible and the book cannot be unlocked by manual effort.

In order to prevent any tampering with the book while in this locked position by a screw-driver, or any of the many substitutes therefor which are usually

at hand, I have given the face of the screw a peculiar construction which renders it necessary for a peculiarly constructed key to be used to turn it, and thus safe-guards the contents of the book to a much greater extent, than was before possible. The preferred construction of the head of the screw is shown in Figs. 1, 2, 5 and 12 of the drawings, and consists in making a circular enlargement *c* of the slit *d* concentric with the center of the face of the screw, and providing a centering pin *e* in the center of the enlargement *c* which will project from the bottom of the same in alinement with the axis of the screw.

In Figs. 6 and 7 of the drawings is shown a key *G* the end of the tubular barrel of which is provided with diametrically opposite projecting wards *g, g*, that are adapted to be used in conjunction with the construction of the head of the screw, as just described.

In Figs. 8, 9, 10 and 11 I show modified constructions of the face of the head of the screw, which will answer the purpose of my invention just as well as that shown in Figs. 5 and 12 of the drawings. Fig. 8 shows the face of the head 2 of the screw provided with a spiral groove 3. Fig. 9 shows the face of the head 4 of the screw with three equi-distant recesses 5 in its circumferential edges; Fig. 10 shows the face provided with four equi-distant recesses 6 in its circumferential edges, and Fig. 11 shows the face of the screw 7 provided with three equi-distant holes 8 therein. Any of these modifications could be used by the employment of a key whose engaging end was adapted to fit into or over the same according as it might be necessary.

One peculiarity to which it is desired to call attention is that in all of the constructions of the face of the head of the screw the key enters into or below the plane of the face of the screw, and is not built up above the same, thus making it possible to use an ordinary screw, and not employ a screw having a specially constructed head involving considerable additional expense.

In order to still further protect the head of the screw from being tampered with and to improve the appearance of my improved lock, I have provided an escutcheon *H* which consists of a disk of greater diameter than the head of the screw having a portion of its circumference cut away so as to leave a straight edge, as at *h*, and provided with a downwardly projecting tongue *j*. This disk is located so as to be concentric with the axis of the screw, and when in this position, its straight edge will be in the same transverse plane as the rear edge of the clamping-plate to which the bolt is connected, and its tongue will lap down against the edge of the clamping-plate. In this position it is securely held by the layers of material (such as pasteboard, rubber and leather) it is customary to cover the clamping-plates with. The center of the disk is raised so as to make a cylindrical shaped hollow boss *k* the outer end of which terminates in about the same plane as the outer covering of the clamping-plate, and has a key-hole *m* therein, the shape of which corresponds to the transverse contour of the end of the key engaging the face of the screw, and in alinement with the axis of the same.

The edges of the opening in the covering which

was cut away to permit of the boss of the escutcheon projecting therethrough, are bound and protected by an eye *J*, which is of such a size as to fit tightly around the said boss and together therewith gives the back of the book a trim, neat appearance as well as protecting the edges of the opening in the leather from abrasion.

It will be understood that, while I much prefer to use the escutcheon and eye, they can be dispensed with.

What I claim as new is:—

1. A baffle for the locks of loose-leaf binders consisting of a screw engaging one of the locking members thereof, the head of said screw changed to prevent the engagement of a screw-driver therewith; and an escutcheon comprising a mutilated disk provided with an overhanging tongue and having a central dome guarding the face of said screw and a keyhole in its outer surface, said dome adapted to pass through the covering of said binder.

2. A baffle for the locks of loose-leaf binders consisting of a screw engaging one of the locking members thereof, the head of said screw recessed to receive the end of a special key; and an escutcheon comprising a mutilated disk provided with an overhanging tongue and having a dome guarding the face of said screw and a keyhole in its outer surface, said dome adapted to pass through the covering of said binder.

3. A baffle for the locks of loose-leaf binders consisting of a screw engaging one of the locking members thereof, the head of said screw having a transverse slit which is provided with a circular enlargement mediate its ends, and has a central pin for a key projecting concentric therewith; and an escutcheon comprising a mutilated disk provided with an overhanging tongue, said disk having a central dome guarding the head of said screw, which dome is adapted to project through an opening in the covering of said binder and has a keyhole in its outer surface.

4. A baffle for the locks of loose-leaf binders consisting of a screw engaging one of the locking members thereof, the head of said screw changed to prevent the engagement of a screw-driver therewith; and an escutcheon comprising a disk having a portion of its circumference cut away to provide a straight edge, having a tongue projecting laterally therefrom and bent downward at right angles to itself, and a central dome guarding the head of said screw provided with a keyhole in its outer surface.

5. A baffle for the locks of loose-leaf binders consisting of a screw engaging one of the locking members thereof, the head of said screw recessed to receive the end of a special key; and an escutcheon comprising a disk having a portion of its circumference cut away to provide a straight edge having a tongue projecting laterally therefrom and bent downwards at right angles to itself, and a dome guarding the head of said screw provided with a keyhole in its outer surface.

6. A baffle for the locks of loose-leaf binders consisting of a screw engaging one of the locking members thereof, the face of said screw having a transverse slit which is provided with a circular enlargement mediate its ends and has a centering pin for a key projecting concentric therewith; and an escutcheon comprising a disk having a portion of its circumference cut away to provide a straight edge having a tongue projecting laterally therefrom; and a dome guarding the head of said screw and having a keyhole in its outer surface.

7. A baffle for the locks of loose-leaf binders consisting of a screw engaging one of the locking members thereof, the head of said screw changed to prevent the engagement of a screw-driver therewith, an escutcheon comprising a disk having a portion of its circumference cut away to provide a straight edge having a tongue projecting laterally therefrom and bent downwards at right angles to itself, and a central dome guarding the head of said screw provided with a keyhole in its outer surface; and a concentric eye surrounding said dome that binds the contiguous edge of the covering.

8. A baffle for the locks of loose-leaf binders consisting of a screw engaging one of the locking members thereof, the head of said screw recessed to receive the end of a special key; and an escutcheon comprising a disk having a portion of its circumference cut away to provide a straight edge having a tongue projecting laterally therefrom and bent downwards at right angles to itself, a dome guarding the head of said screw provided with a keyhole in its outer surface, and a concentric eye surrounding said dome that binds the contiguous edge of the covering.
9. A baffle for the locks of loose-leaf binders consisting of a screw engaging one of the locking members of said binder, the head of said screw changed to prevent the

engagement of a screw-driver therewith; and an escutcheon guarding the face of said screw comprising a circular disk provided with a central dome covering said screw and having an opening in its upper surface corresponding in outline to the shape of the screw engaging device passed through the same. 15

In testimony whereof I have hereunto set my hand and seal this 1st day of November, 1905. 20

JAMES S. McDONALD.

Witnesses:

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E. K. LUNDY.