No. 819,275. PATENTED MAY 1, 1906.

W. N. HALL.

LOCKING DEVICE.

APPLICATION FILED MAR. 23, 1905.

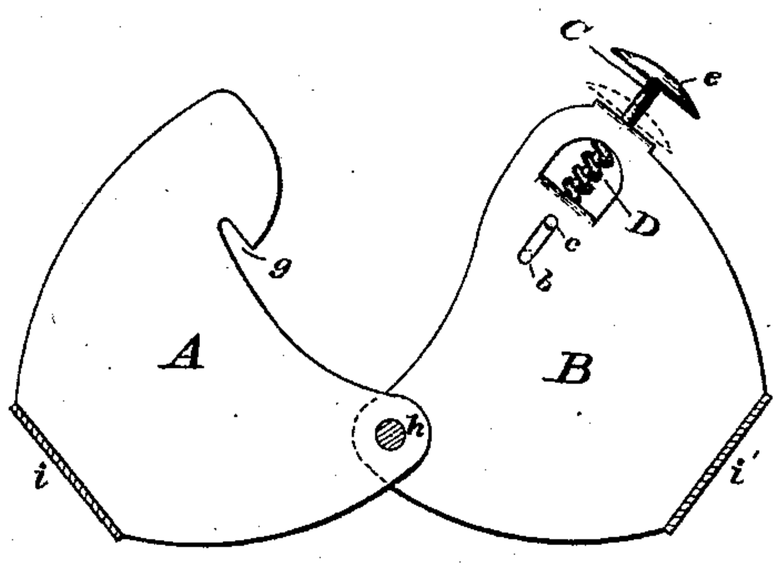

Fig. 1.

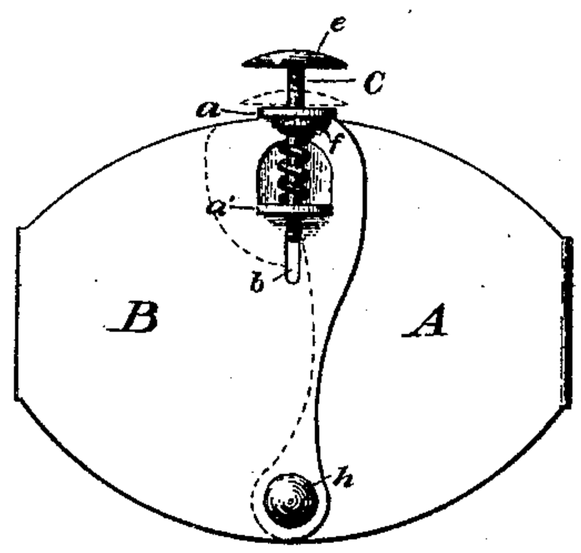

Fig. 2.

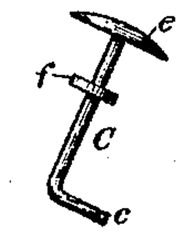

Fig. 3.

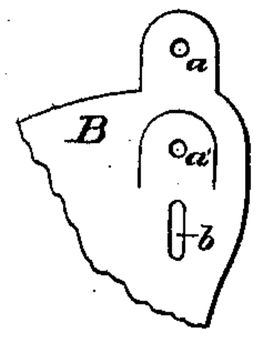

Fig. 4.

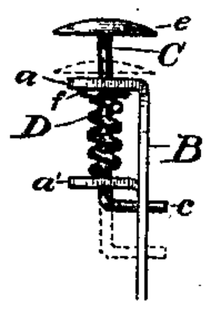

Fig. 5.

Witnesses
Percy Metzger
Victor H. Wallace

Inventor
Wm. N. Hall

UNITED STATES PATENT OFFICE.

WILLIAM N. HALL, OF BANGS, TEXAS.

LOCKING DEVICE.

No. 819,275. Specification of Letters Patent. Patented May 1, 1906.

Application filed March 23, 1905. Serial No. 251,701.

To all whom it may concern:

Be it known that I, WILLIAM N. HALL, a citizen of the United States, residing at Bangs, in the county of Browne and State of Texas, have invented a new and useful Improvement in Locking Devices, of which the following is a full, clear, and exact description.

My invention relates to an improvement in locking devices, and is primarily intended as a device for locking the frames of loose-leaf binders, whereby the loose leaves are firmly held within the covers of the binder. It may also be used for other purposes. Its object is to overcome the faults incident to many devices of a similar character now in general use by providing a simple device which while it may be easily opened will remain firmly fastened when once locked and also one which will not be readily bent or broken.

In the drawings, Figure 1 represents the end plates of a loose-leaf binder equipped with my invention and disengaged one from the other, as viewed from within. Fig. 2 represents the same plates when locked, as seen from without. Fig. 3 represents the locking-bolt. Fig. 4 shows a convenient manner of constructing the portion of the end plate to be equipped with the locking-bolt. Fig. 5 is a lateral view of an end plate with the locking-bolt attached.

Referring to the drawings, A and B represent the end plates usual in loose-leaf binders and which are made integral with or are secured to the binder in any suitable manner. These plates are shown as pivotally connected or hinged together at *h;* but this is not a necessary part of my invention. The plates may be independently attached to the respective backs of the ledger, it only being necessary that when they are moved into their locked position, as in Fig. 2, their meeting faces shall be close together. The body of the binder and the means for engaging the loose leaves to be bound therein form no part of my invention and are not shown in the accompanying drawings otherwise than that *i* and *i'* show the points where the end plates illustrated are attached to the body of the binder.

Plate B is provided near its upper inner edge with wings *a* and *a'*, extending at right angles to its outer face. These wings are placed one above the other and are perforated. Immediately below the lower of these wings *a'* an elongated vertical slot *b* is cut in the plate B. The perforations in the wings *a* and *a'* and the slot *b* are so located that they will all vertically aline one with the other.

C is a locking-bolt comprising a straight stem having its lower extremity bent at right angles, forming a lug *c*, and provided at its opposite end with a button *e*. The object of the perforate wings *a* and *a'* is to form supports and guides for this locking-bolt, which when attached to the plate B is passed through them and so positioned that its lug *c* will extend through the slot *b'* and somewhat beyond the inner face of the plate.

D is a coil-spring which encircles the bolt C when the same is in position as shown in Fig. 5. The bolt C is provided with a flange or collar *f*, rigidly attached to it and so arranged as to be located between the wings *a* and *a'* when the bolt is connected to the end plate. This flange serves as an abutment for the upper end of the coil-spring D and also limits the upward movement of the bolt itself. The lower end of this spring abuts against the lower wing *a'*. As the tendency of this spring is to expand, it will press against the flange *d* and force the bolt upward, and so hold the lug *c* in a normally elevated position in the slot *b*.

The upper portion of the inner edge of plate A is curved or slanted downward and inward and terminates in a vertical notch *g*. The plates A and B are so constructed and located with reference to each other that when brought together into a locked position the notch *g* of plate A and the slot *b* of plate B will register, and when thus brought into registration the slot *b* should extend slightly beyond the lower end of the notch *g*.

When the binder is closed, the plates A and B are brought together and the upper inclined or rounded edge of plate A will be brought in contact with the projecting end of the lug *c* on the inner face of plate B, the plates being arranged with relation to each other as is illustrated in the drawings. Owing to its curved or inclined formation, this edge of the plate A will ride over the lug *c*, depressing the lug in the slot *b* as the plate A moves forward. When, however, a point is reached where the slot *b* and the notch *g* are brought into registration, the lug *c* will be released, and the spring D will force the bolt

C upward, and the lug *c* will pass into the notch *g*, thus securely locking the two plates and the binder to which they are attached.

To unlock the binder, it is only necessary to press upon the button *e*. This will force the bolt C down, and the lug *c* will be carried beyond the notch *g*. The binder can then be opened without difficulty.

In Fig. 4 I have illustrated a convenient way of constructing plate A with its perforated wings and elongated slot. It may be stamped, as shown in the drawings. The parts *a* and *a'* are then bent outward, forming the wings.

I do not intend to limit myself to the exact construction shown in the drawings, as it is plain that this may be modified in many ways without departing from the principle of my invention. This device may also be used as a locking attachment in various ways and is not limited in its scope to an attachment for loose-leaf binders.

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

1. A locking device comprising the plate B having the slot *b*, the wings *a* and *a'*, the bolt C, the lug *c* and the collar *f*, together with the spring D, in combination with the notched plate A substantially as described.

2. In a binder, an end plate having outwardly-extending perforated wings and a slot disposed beneath the wings, a bolt passing through the wings and having a lug adapted to reciprocate in the slot, a coil-spring surrounding the bolt and disposed between the wings and adapted to hold the bolt in a normally elevated position, in combination with a second plate adapted to bear against and depress the lug and having a notched portion adapted to engage the lug and lock the plates, together with means for depressing the bolt and unlocking the plates, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

WILLIAM N. HALL.

Witnesses:
J. W. DAVISON,
THOS. N. WALLER.