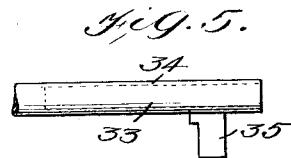
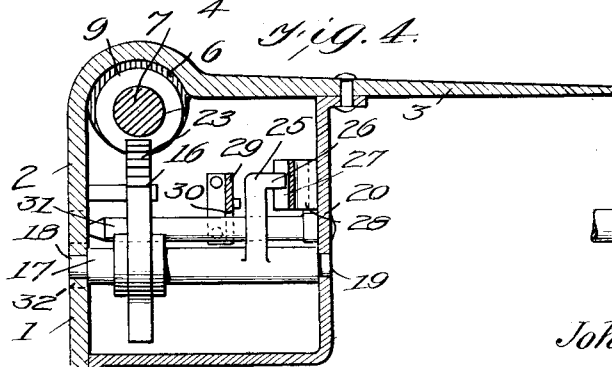
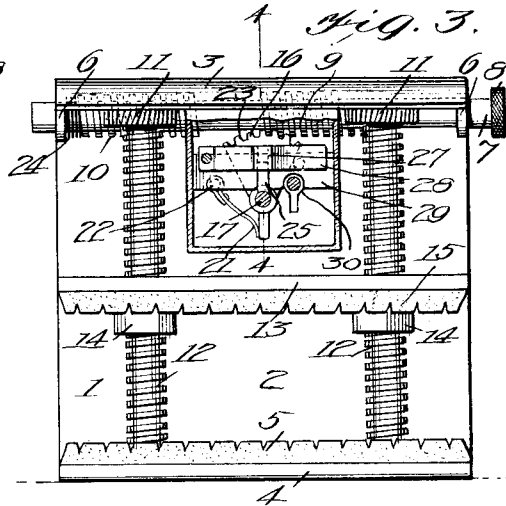
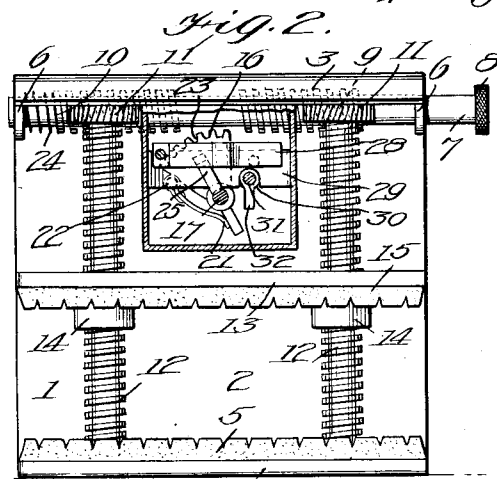
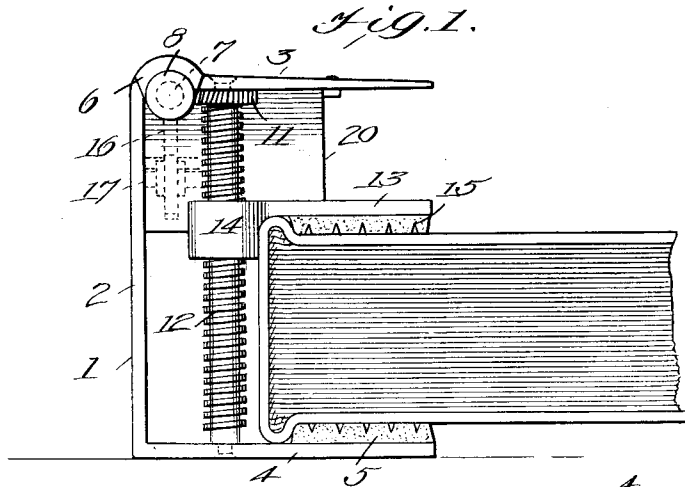


J. VAN DER WEL.
BOOK BINDER OR LOCK.
APPLICATION FILED MAR. 9, 1912.

1,064,675.

Patented June 10, 1913.



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BOOK BINDER OR LOCK.

1,064,675.

Specification of Letters Patent.

Patented June 10, 1913.

Application filed March 9, 1912. Serial No. 682,572.

To all whom it may concern:

Be it known that I, JOHN VAN DER WEL, a citizen of the United States of America, residing at Seattle, in the county of King and State of Washington, have invented new and useful Improvements in Book Binders or Locks, of which the following is a specification.

This invention relates to improvements in locks or binders and has particular application to devices of this character for locking books, letters, and the like to prevent the removal or addition of sheets.

In carrying out the present invention, it is my purpose to provide a lock or binding device of this class which will include a fixed jaw and a movable jaw designed to embrace one edge of the book or other article to be locked, means being provided to actuate the movable jaw to cooperate with the fixed jaw to produce a clamping action upon the book and lock the same in closed position, a locking device being operable from the said means to lock the jaws against movement.

Furthermore, I aim to provide a lock or binder of this character which will embody the desired features of simplicity, efficiency and durability coupled with cheapness of cost in manufacture.

With the above and other objects in view, the invention consists in the construction, combination and arrangement of parts hereinafter set forth in and falling within the scope of the appended claims.

In the accompanying drawing forming a part of this specification there has been illustrated one practical embodiment of the invention and in this drawing;

Figure 1 is a side elevation of a lock constructed in accordance with the present invention, the same being applied to a book. Fig. 2 is a front elevation of the lock, the locking device being shown in unlocked position. Fig. 3 is a view similar to Fig. 2 showing the locking device in locked position. Fig. 4 is a fragmentary enlarged transverse sectional view on the line 4-4 of Fig. 2, and Fig. 5 is a detail view of a key for the lock.

Similar reference characters designate like parts throughout the several views.

Referring now to the accompanying drawing in detail, my improved lock as shown includes a casing 1 constructed of metal or any other suitable or preferred material and provided with a rear wall 2 and top and bottom

walls 3 and 4 respectively extending at right angles to the rear wall and in parallelism with each other. The lower wall 4 at its outer free end is provided with a covering 5 of felt, rubber or the like and is designed to form the stationary jaw of the lock, while the upper wall 3 of such lock forms a handle by means of which the lock may be applied to a book with ease and convenience.

Depending from the junction of the upper wall 3 with the rear wall 2 at each side of the casing is an ear 6, and rotatably and slidably mounted in these ears is an actuating shaft 7 extending beyond both sides of the casing and equipped at one end with an operating disk 8 whereby the shaft may be rotated in its bearings. This shaft 7, within the casing is provided with worm threads 9 and 10 spaced appropriate distances from each other and designed to engage worm gears 11, 11 carried upon the proximate ends of worm shafts 12, 12 arranged forwardly of the shaft 7 and journaled in the upper and lower walls 2 and 3 of the casing so that in the movement of the shaft 7, motion may be transmitted to the worm shafts 12, 12 through the medium of the worm threads 9 and 10, and the worm gears 11, 11. The numeral 13 designates the movable jaw provided with spaced internally threaded collars 14, 14 designed to receive the shafts 12, 12 whereby in the movement of the latter the movable jaw 13 may be moved toward and away from the fixed jaw 4, dependent upon the direction of rotation of the shaft 7, as will be readily understood, the under surface of the jaw 13 being provided with suitable yieldable material 15 such as felt, rubber or the like to prevent marring of the book in the application of the lock thereto. It will thus be seen that a book may be inserted between the jaws 4 and 13, when the latter are separated, and the movable jaw moved toward the fixed jaw to produce a clamping action upon the book between such jaws to lock the same against access, such movement being imparted to the movable jaw by means of the worm shafts 12, gears 11 and shaft 7, the latter rotating in its bearings to turn the worm shafts.

In order to lock the movable jaw in engagement with the book and to produce such action automatically, I employ a locking device which in the present instance includes a segment 16 fixed upon a shaft 17 which finds a bearing at its end 18 in the rear wall 2 of

the casing, while its opposite end 19 is journaled in a plate 20 of right angular outline and having its opposite extremities riveted or otherwise suitably secured to the rear wall 2 and the upper wall 3, which form therewith a housing or casing for the locking device. The segment 16 is held normally in an inoperative position by means of a leaf spring 21 having one limb secured to a stop pin 22 arranged upon one side of the segment 16 and having its opposite limb connected to the segment 16 and acting thereon to hold the same in engagement with the stop pin 22 and in an inactive or unlocked position. The peripheral edge of the segment 16 is formed with teeth 23 adapted to be engaged by the worm threads 9 upon the shaft 7 so that the segment 16 may be turned or rotated against the action of the spring 21 to lock the shaft 7 against rotation. To accomplish this result, the shaft 7 is capable of sliding within its bearings, as before said, so that when the jaws 13 and 4 have been clamped upon the book and the worm shafts 12 rendered immovable owing to such clamping action, the shaft 7 may travel longitudinally of the casing owing to the worm gears 11, 11 on the shafts 12, 12 being stationary in the continued turning movement of the worm threads 9 and 10 on the actuating shaft. Previous to the actuating shaft 7 reaching the end of its path of sliding movement, the worm thread 9 thereon engages the teeth 23 in the segment 16 so that rotation of the actuating shaft moves the segment to locking position as shown in Fig. 3. Encircling the shaft 7 intermediate the worm thread 10 and the adjacent ear 6 on the casing is a coiled expansion spring 24 designed to prevent premature sliding movement of the actuating shaft and adapted to hold the threads 9 thereon out of engagement with the teeth of the segment 16 until a certain pressure has been brought to bear upon the book between the jaws 13 and 4.

Fixed to the shaft 17 adjacent the segment 16 thereon, in parallel relation therewith is an arm 25 equipped at its free end with a right angularly extending lug 26 adapted to engage a recess 27 formed in a spring member 28 which spring member is bolted or otherwise fastened to the plate 20 of the housing of the locking device, the lug 26 on the arm 25 being designed to enter the groove 27 in the spring member 28 when the segment 16 has been thrown to locking position so as to prevent the return of the segment to an unlocked or inactive position until the lug 26 is disengaged from said groove. Fixed to the side walls of the housing of the locking device upon the side of the arm 25 opposite from the spring member 28, is a guide plate 29 provided with a cut out portion 30 through which is

passed a key post 31 fixed at one end to the wall 20 of the housing and terminating at its opposite end short of the rear wall 2 of the casing 1 and in alinement with a key hole slot 32 adapted to receive the hollow shank 33 of a key 34 provided with a lug 35 adapted to enter the space between the guide plate 29 and the spring member 28 so that in the turning movement of the key, the spring member 28 may be forced against the wall 20 of the housing of the locking device to disengage the groove 27 thereof from the lug 26 on the arm 25. In this position of the spring member 28, the actuating shaft is rotated and slides longitudinally within its bearings under the action of the spring 24. The segment 16 is then moved toward the inactive position, and is finally disengaged from the worm 9 as in Fig. 2, and the spring 21 acts to hold such segment inactive, while the direction of rotation of the actuating shaft is reversed, the worm wheels 11, 11 and the shafts 12, 12 being turned in the reverse movement of the actuating shaft to relieve the book of the clamping action of the jaws. If desired, the lug 35 of the key 34 may be formed with a depression or projection and the guide plate 29 formed with a similar depression or projection so that the device may be unlocked only by a special form of key.

In practice, the jaws 4 and 13 are positioned upon the opposite sides of the book, as shown in Fig. 1, and the shaft 7 revolved by means of the operating disk 8 to impart movement to the jaw 13 through the medium of the worm gears 11 and their respective shafts 12. Upon a certain clamping action being produced upon the book, which action is dependent upon the tension of the spring 24, the said spring will yield to permit the shaft 7 to slide longitudinally of its bearings whereby the worm threads 9 thereon will engage the teeth 23 in the segment 16 to throw the latter to a locking position, as previously described, whereby the lug 26 of the arm 25 will engage the recess 27 in the spring member 28 to lock the parts in position. To unlock the device, the key is inserted through the key hole slot 32 and positioned upon the post 31 and the lug 35 of such key is disposed between the guide plate 29 and the spring member 28 so that in the turning of the key, the spring member may be forced out of engagement with the lug on the arm 25 to permit the locking device to be returned to an unlocked or inactive position as aforesaid so that the jaws 13 and 4 may be separated by turning the shaft 7 in a reverse direction.

From the foregoing description taken in connection with the accompanying drawing, the construction and operation of my invention will be readily apparent and while I have shown and described one form of my

invention by way of illustration, I desire to have understood that I do not limit myself to the exact details of construction herein shown and described, as modification and variation may be made within the scope of the claims and without departing from the spirit of the invention.

I claim:

1. In a device of the class described, a fixed jaw, a movable jaw, means for actuating said movable jaw toward said fixed jaw to produce a clamping action, an actuating member for said means, and a locking device operable from said member subsequent to the initial movement of said jaw to produce a clamping action.

2. In a device of the class described, a fixed jaw, a movable jaw, means for actuating said movable jaw toward said fixed jaw to produce a clamping action, an actuating member for said means, a locking device operable from said member subsequent to the initial movement of said jaw to produce a clamping action, and means for releasing said locking device.

3. In a device of the class described, a fixed jaw, a movable jaw, means for actuating said movable jaw toward said fixed jaw to produce a clamping action, an actuating member for said means and movable therefrom subsequent to the initial movement of said movable jaw to produce the clamping action, and a locking device operable from said member in the movement thereof subsequent to the initial movement of the movable jaw.

4. In a device of the class described, a fixed jaw, a movable jaw, means for actuating said movable jaw to produce a clamping action, an actuating member for said means and movable therefrom subsequent to the initial movement of said movable mem-

ber to produce a clamping action, a locking device operable from said member in the further movement thereof, and means for releasing said locking device.

5. In a device of the class described, a fixed jaw, a movable jaw, means for actuating said movable jaw to produce a clamping action, an actuating member for said means and movable therefrom subsequent to the initial movement of said movable member to produce a clamping action, a locking device operable from said member in the further movement thereof, and key operated means for releasing said locking device.

6. In a device of the class described, a fixed jaw, a movable jaw adapted to cooperate with the fixed jaw to produce a clamping action, means for actuating said movable jaw, an actuating member for said means and movable therefrom subsequent to the movement of the movable jaw to produce the clamping action, means for holding said actuating member against receding movement previous to producing the clamping action, and a locking device operable from said member in the subsequent movement thereof.

7. In a device of the class described, a fixed jaw, a movable jaw, worm shafts for actuating said movable jaw, an actuating shaft for said worm shafts, connections between said actuating shaft and worm shafts, and a locking device operable from said actuating shaft subsequent to the initial movement of said movable jaw.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN VAN DER WEL.

Witnesses:

MELCHERT VAN DER WEL,
LAMBERT VOSS.