954,791.

T. A. GLENDINNING.
LEDGER LOCKING DEVICE.
APPLICATION FILED MAY 7, 1909.

Patented Apr. 12, 1910.

3 SHEETS—SHEET 1.

Fig. 1.

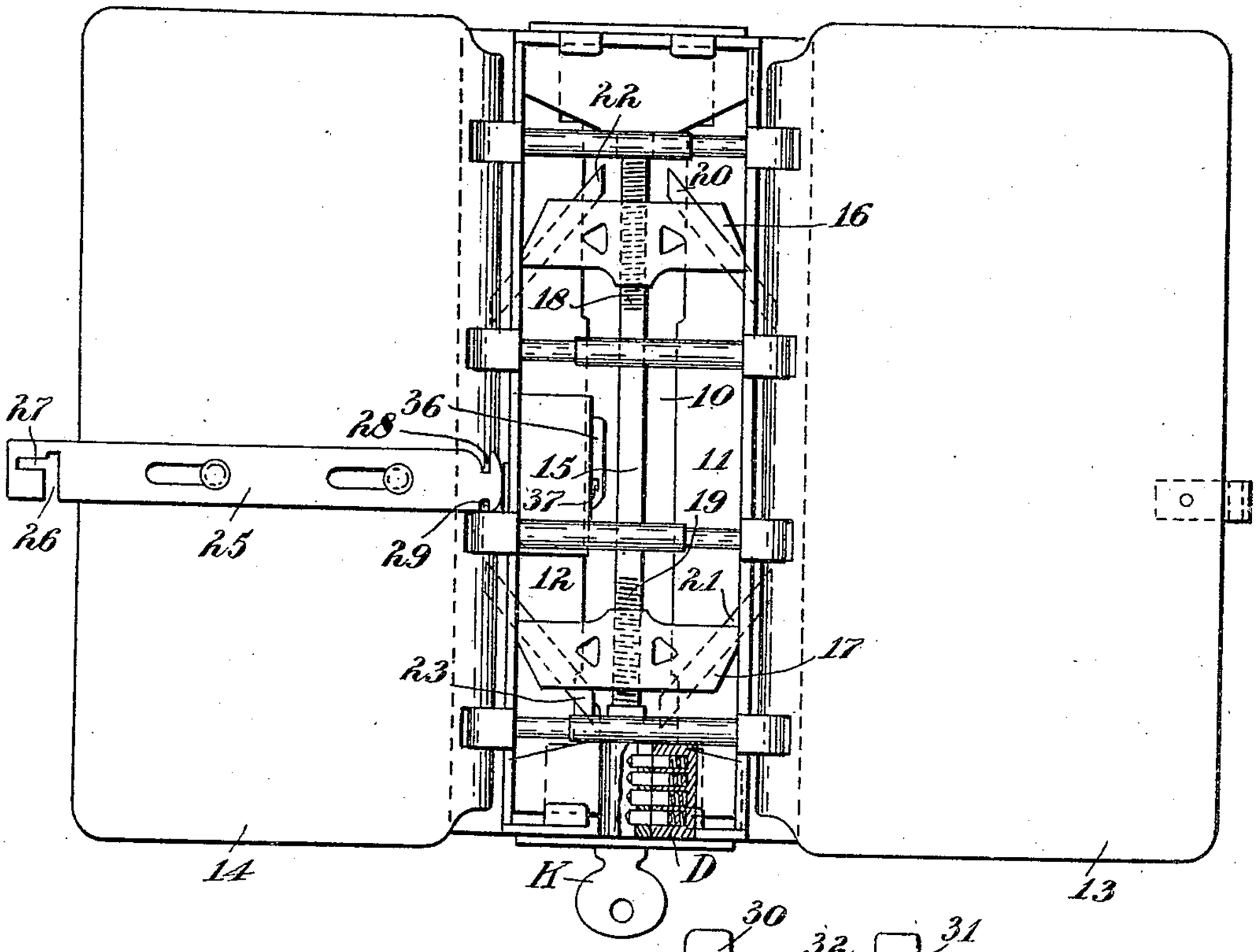


Fig. 2.

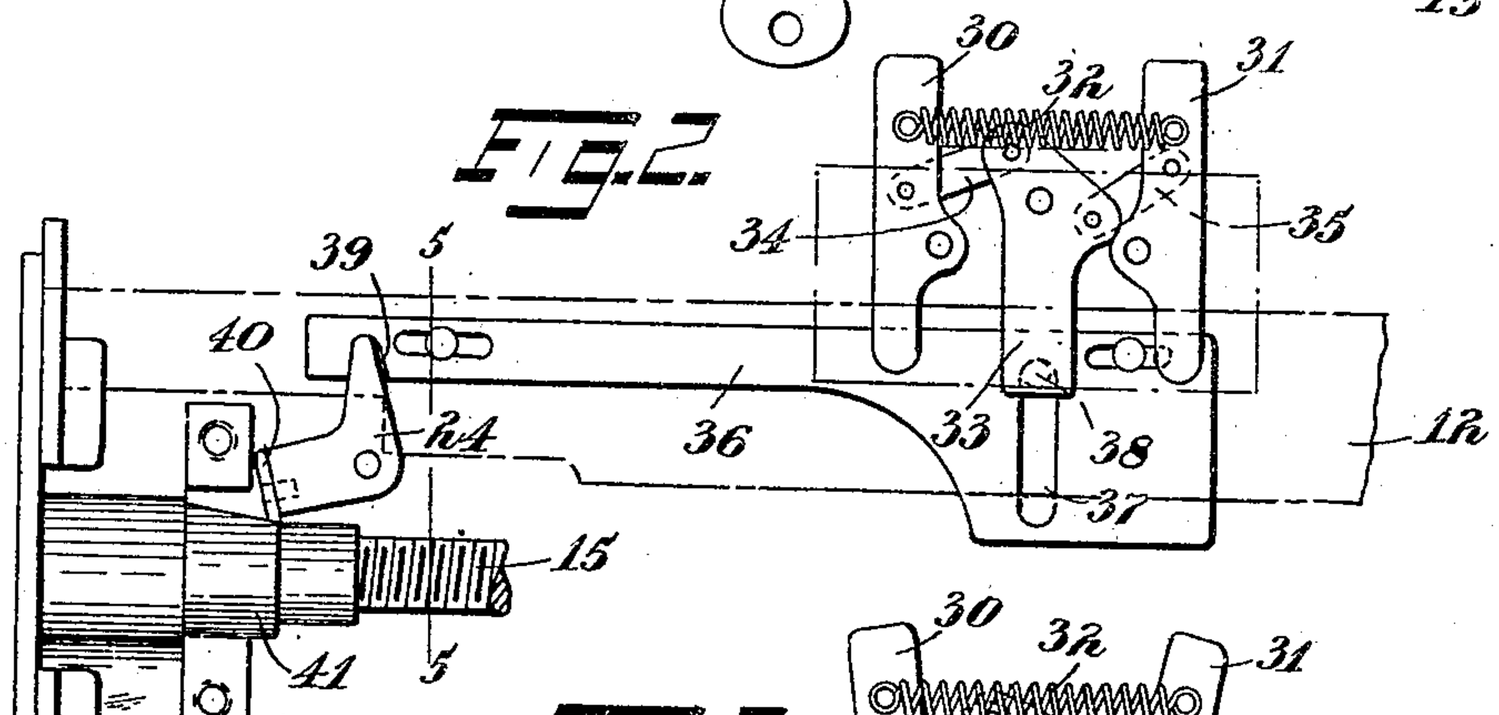
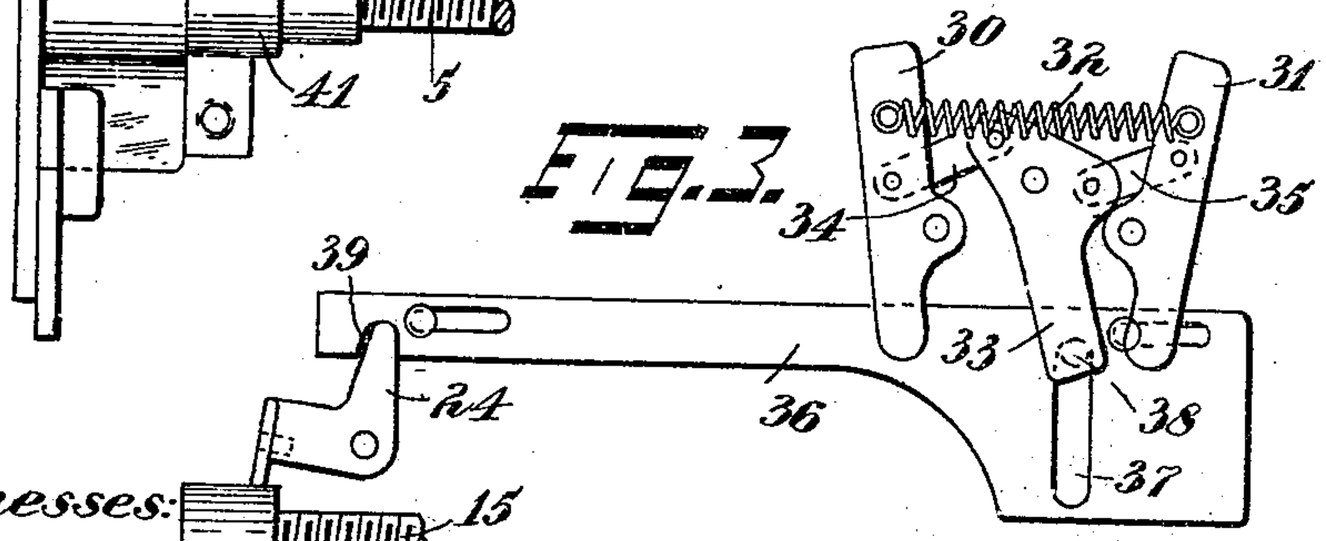


Fig. 3.



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3 SHEETS—SHEET 2.

Fig. 4.

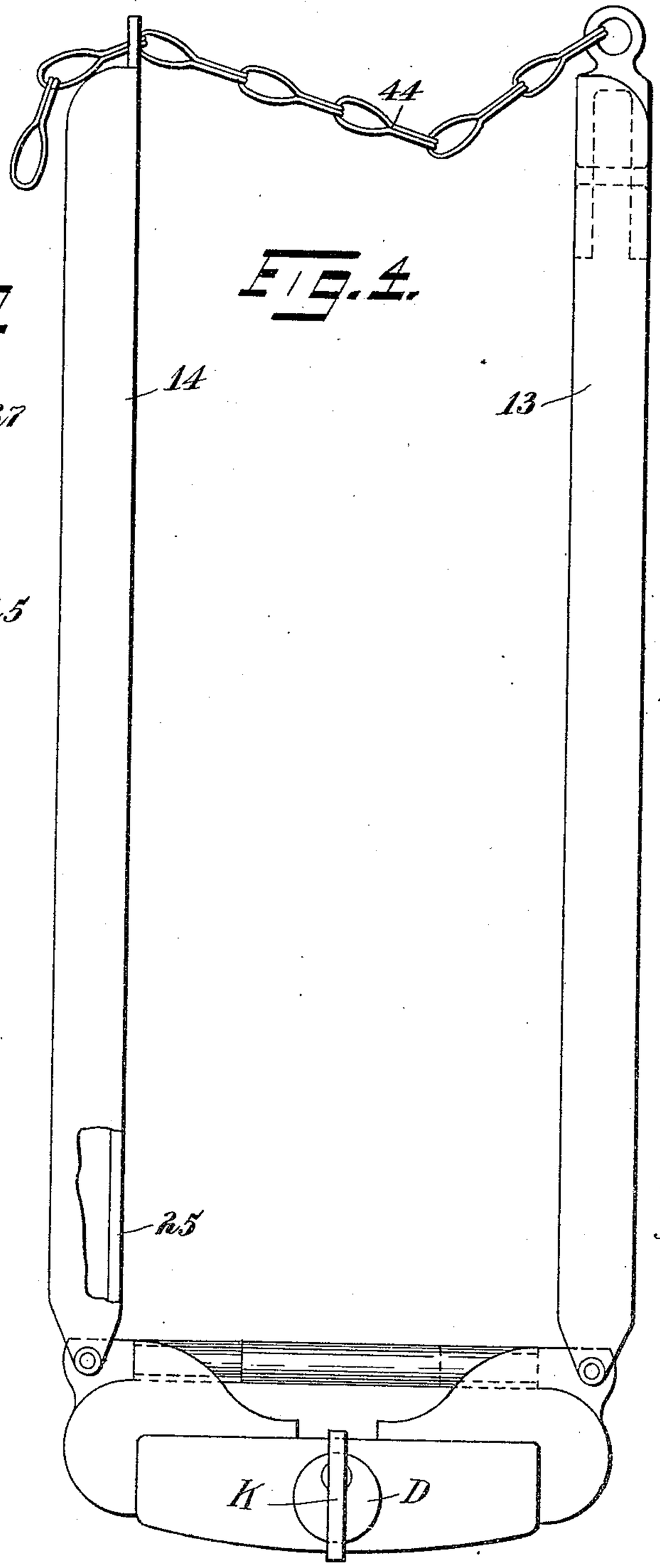


Fig. 5.

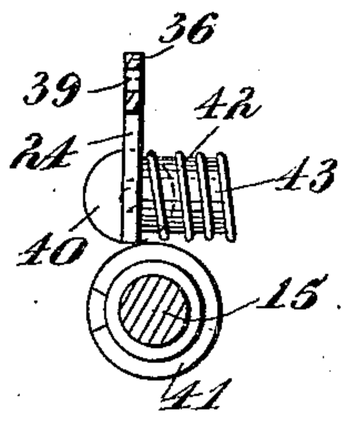


Fig. 7.

Fig. 6.

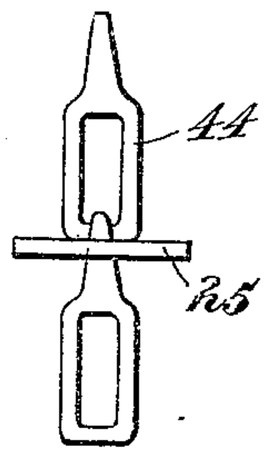
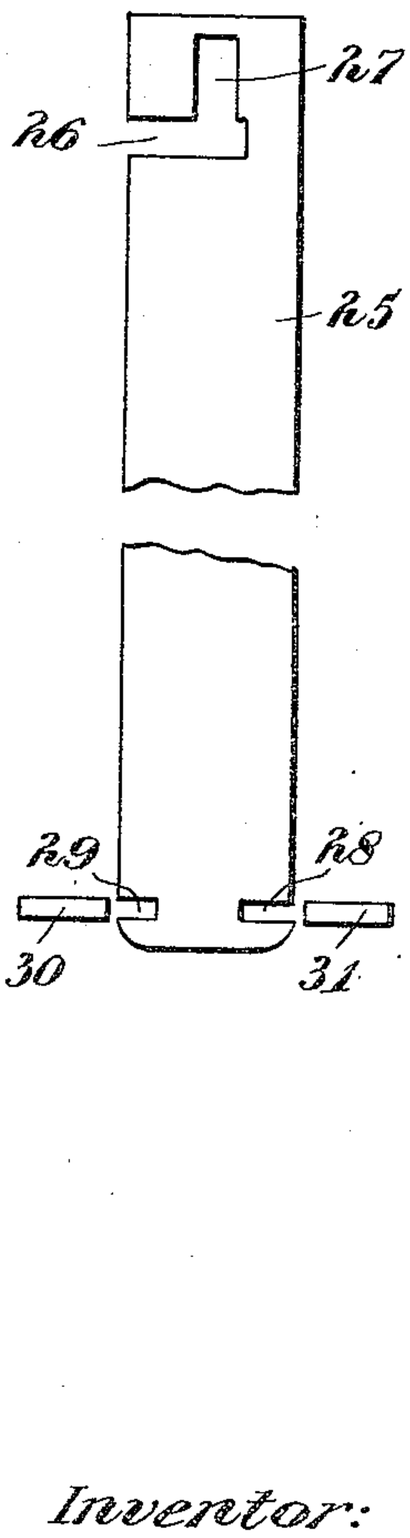


Fig. 8.



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3 SHEETS—SHEET 3.

FIG. 9.

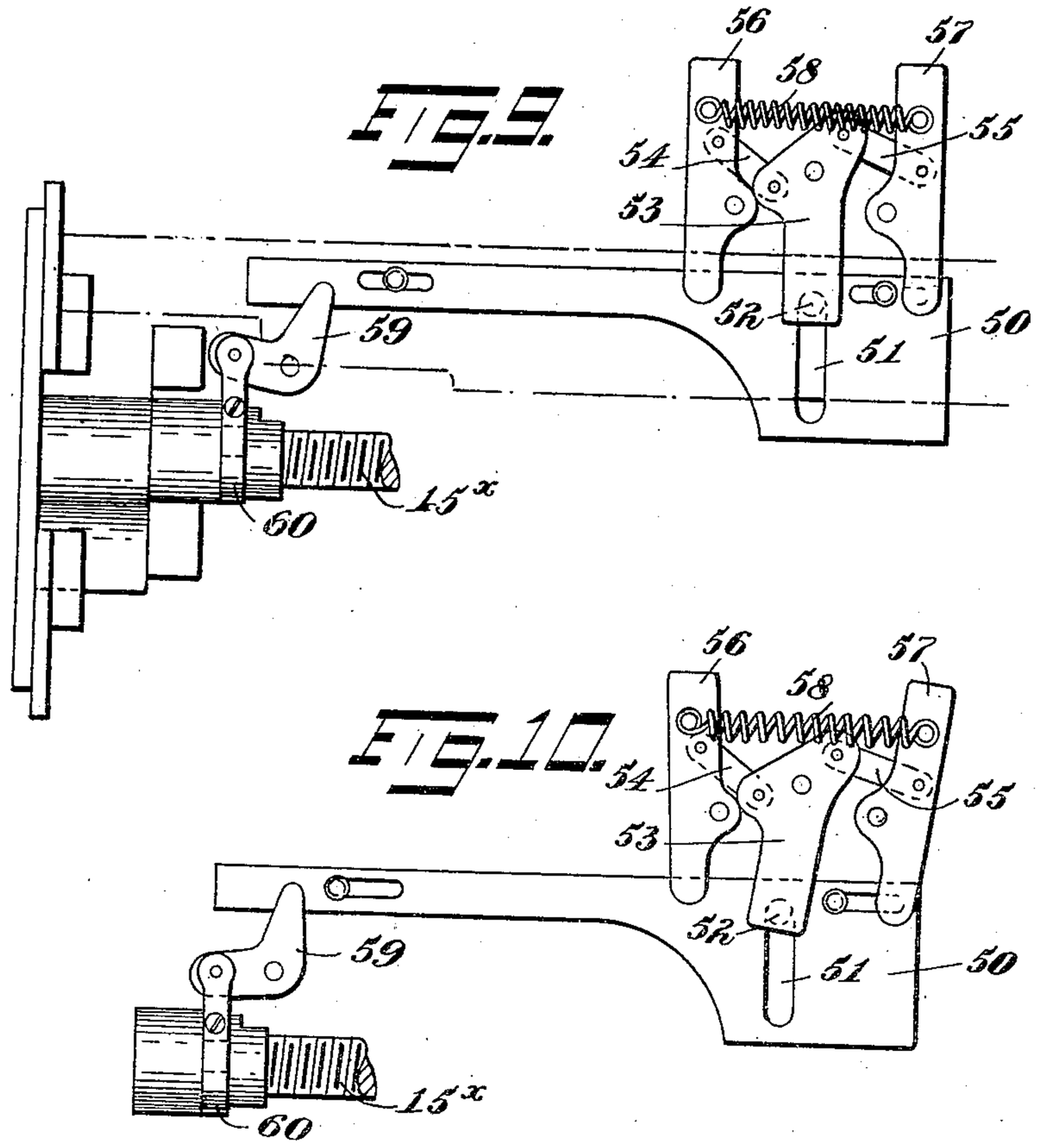
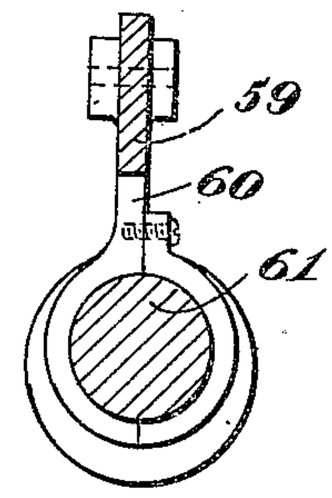


FIG. 10.

FIG. 11.



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UNITED STATES PATENT OFFICE.

THOMAS A. GLENDINNING, OF NEW YORK, N. Y., ASSIGNOR TO WILLIAM MANN COMPANY, OF NEW YORK, N. Y., A CORPORATION OF PENNSYLVANIA.

LEDGER-LOCKING DEVICE.

954,791. Specification of Letters Patent. Patented Apr. 12, 1910.

Application filed May 7, 1909. Serial No. 494,634.

To all whom it may concern:

Be it known that I, THOMAS A. GLENDINNING, a citizen of the United States, residing in New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Ledger-Locking Devices, of which the following is a specification.

This invention relates to devices for releasably confining the leaves or pages of a book, sometimes known as loose leaf ledgers, wherein the leaves can be removed, and others substituted from time to time as desired. In a patent granted to me November 8th, 1904 No. 774,516, is set forth a key controlled locking device whereby the holding means for the leaves can be locked to prevent opening thereof or removal of the leaves.

The object of the present invention is to provide means for locking the covers of the book in closed position to prevent inspection of the contents of the book; which means are controlled by locking means for locking the leaf holding means against opening movement.

In the accompanying drawings representing an embodiment of my invention, Figure 1 shows the device in the open position, the leaves being removed. Fig. 2 is a plan view enlarged of part of the cover locking means in the closed position, and Fig. 3 shows these parts in the opened position. Fig. 4 shows enlarged the device in end elevation. Fig. 5 is a section on the line 5—5 indicated in Fig. 2. Fig. 6 is an end view of the locking bar with the chain placed in its slot. Fig. 7 is a plan view broken of the locking bar with the latches closed on the bar, and Fig. 8 is a similar view with the latches open to release the bar. Figs. 9 and 10 show a slight modification in which the latch operating strip is reciprocated from a cam on the operating shaft, and Fig. 11 shows enlarged a section through the shaft adjacent the cam and the strip.

In the said patent is shown a device comprising a backing member to which covers are to be hinged, and on the backing member is a rotatably supported spindle that can be locked against movement by a key. Impaling pins are shown that are operated to open and close from the rotation of the spindle and obviously when in closed position and the spindle locked, the impaling pins cannot be opened for removal of the leaves or sheets.

The present invention is designed for use in connection with any such device where there is a rotatable spindle for operating the leaf holding means. In the construction set forth is shown a backing member 10 on which slides two plates 11 and 12 one on each side, to which are hinged the covers 13 and 14 respectively. A spindle 15 is rotatably mounted on the back member 10 and secured against endwise movement, and suitable means are provided whereby the rotation of the spindle will cause mutual approach and recession of the plates 11 and 12. In the said patent of mine nut members are operated by a threaded spindle and connected by links with the plates for their operation. In the present construction a pair of blocks 16 and 17 have threaded apertures through which pass threaded portions 18 and 19 of the spindle and hence these blocks will advance as the spindle is rotated. The plate 11 carries inclined guide pieces 20 and 21 sliding in corresponding slots in the blocks 16 and 17; and the plate 12 carries guide blocks 22 and 23 sliding in similar slots in the blocks 16 and 17. The threaded portions of the spindle and of the blocks are in reverse directions whereby these blocks mutually approach or recede as the spindle is turned in opposite directions, and the inclined guides being in opposite directions on each plate, the rotation of the spindle will cause the approach and the recession of the said plates. Each of the plates carries a pair of pins and a pair of tubes that are situated for mutual engagement, the pins of each plate sliding in the opposite tubes of the other plate. And when the two plates are separated the limit of their movement the pins are free of the tubes and permit insertion of the leaves or sheets at their apertured portions in the usual manner. The spindle has a locking device, denoted generally by D, adjacent one end that is controlled by a suitable key K, that also serves to turn the spindle. When the key is withdrawn the spindle is locked against rotation to open the impaling members. So far as has been set forth the construction is similar to my said patent with slight differences in constructional details.

The present invention pertains to means for holding the covers in closed position, which means cannot be released when the spindle is in the locked position and the key withdrawn. A bar 25 slides longitudinally on the cover 14 and its outer end contains a transverse slot 26, at the inner part of which is a longitudinal slot 27. A chain 44 is secured to the other cover 13, and when the covers are closed as indicated in Fig. 4 the chain is inserted in the slot 26 and then advanced into the slot portion 27. It will then prevent the opening of the covers, as indicated in Figs. 4 and 6. Upon the bar 25 being slid downward the slot 26 will be closed by the edge of the cover and the chain cannot be removed. The other end of the bar contains opposite slots 28 and 29, that in the locking position are engaged by latches 30 and 31 carried by the sliding plate 12. These latches are held in closed position by a spring 32. A crank plate 33 connects with the latches by links 34 and 35, whereby the latches can be opened to release the locked bar.

On the backing member is suitably guided a strip 36 having a transverse slot 37 into which projects a pin 38 from the crank plate 33. It will be seen that upon sliding the strip 36, the crank plate will be swung. The strip being carried by the backing member, while the crank plate and latches are mounted on the plate 12 slidable on the back member, movement of such members will cause the pin on the crank plate 33 to ride through the slot 37, and hence the strip 36 can operate the crank plate in all positions of adjustment of the two opposite plates carrying the impaling members. The strip 36 is operated from the rotation of the spindle 15 by a bent lever 24 whose end projects into a recess 39 in the strip, and which carries a roller 40 riding on a cam 41 on the spindle. A coil spring 42 on the post 43 carrying the lever 24 serves to press the roller against the cam and to withdraw the slide 36. In the locked position of the spindle when the key is withdrawn, the lever is advanced toward the spindle by its spring and the slide shifted to move the latches to a closed position, whereby the locking bar if engaged by the latches will serve to secure the chain and lock the covers in closed position. The lower end of the locking bar beyond the slots is beveled on each side as shown, whereby when the spindle is in locked position, but the locking bar in the open position, the chain can be engaged in the locking bar and the latter moved downward to engage the latches, that will open to receive the bar and then close on the slots; but obviously the book cannot be opened until the key is inserted and the spindle turned to release the bar. To release the covers it is only necessary to pull outward on the bar and chain after turning the spindle by the key to open position, when the chain can be slid out of the slots in the bar and released therefrom.

In a modification shown in Figs. 9, 10 and 11, a strip 50 slidable on the backing plate has a slot 51 in which rides a pin 52 on a crank plate 53; and links 54 and 55 connect the latter with the latches 56 and 57, connected by spring 58. Such parts are similar to the latch connections shown in Fig. 2, but the strip works in the opposite directions to open and close the latches as indicated in Fig. 10. In this modification, the bell crank 59 connecting with the strip 50, is pivoted to an eccentric strap 60 that engages a wrist pin 61 on the shaft 15×. By this means the rotation of the shaft will positively swing the bent lever 60 and operate the latches in both directions. And this will prevent any tampering with the latches and their mechanism that would permit opening to release the lock bar.

Having thus described my invention, I claim:

1. In a temporary binder, the combination with releasable holding means for the leaves, and key controlled locking means for the leaf holding means, of means for retaining the covers in closed position, and means for causing the said locking means for the leaf holding means to also lock the cover retaining means.

2. The combination with the back member, the two covers hinged to the back, leaf holding means, and key controlled locking means for the leaf holding means and including a rotatable spindle that can be locked against rotation, of means for holding the covers in closed position, and securing means connected with the spindle for locking the said cover holding means.

3. The combination with the back member, covers hinged thereto, leaf holding means, and a key controlled locking device for the leaf holding means, of a bar slidable longitudinally on one of the covers, a securing member extending between the covers and arranged to be engaged by said slidable bar to secure the covers in closed position, and a member controlled by said locking means arranged to engage and secure said bar.

4. In a temporary binder, the combination with the leaf holding means, the spindle, and the key controlled means for locking the spindle against rotation, of a bar slidable longitudinally on one of the covers, means extending between the edges of the covers to engage the bar and lock the covers in closed position, a latch arranged to engage the inner end of said bar, a strip arranged to swing said latch, a lever arranged to reciprocate said strip, and a cam portion on the spindle arranged to swing said lever.

5. In a temporary binder, the combination with the leaf-holding means, the spindle by which the holding means are operated, and key controlled locking means for the spindle, of a bar longitudinally movable on one of the covers, a member extending between the covers arranged to be engaged by the bar to lock the covers in closed position, the bar having its inner end notched on opposite sides, a pair of latches pivoted to swing into and out of said notches when the bar is in the locking position, a strip arranged to reciprocate and having a transverse slot therein, a pivoted crank member, links between the crank member and said latches, a pin on said crank member riding in said slot of the strip, a bent lever pivoted on said back member and connected to the strip, a cam on said spindle engaging said bent lever to swing the same and cause the operation of said latches in one direction, and a spring member arranged to operate the latches and connected members in the opposite directions.

6. In a temporary binder, the combination with the spindle and the key controlled means for locking the spindle against rotation, of a bar slidable longitudinally on one of the covers, the bar projecting beyond the edge of the cover and having a lateral slot and also a slot extending endwise from the inner portion of said lateral slot, a chain secured to the opposite cover and arranged to enter said slots, the said transverse slot being located inside of the cover in the locked position of the bar.

7. The combination with a back member, a pair of plates laterally movable on the back member, a spindle rotatable on the back member, means connecting the spindle and plates to cause them to mutually recede and approach, key-controlled locking means for the spindle, a pair of covers one hinged to each of said plate members, a notched bar longitudinally movable on one of the covers, means extending between the covers for engagement with the bar to lock the covers in closed position, a pair of latches pivoted on one of said movable plates to swing into and out of said notches when the bar is in the locking position, a strip arranged to reciprocate on the back member and having a transverse slot therein, a crank member on the back member, links between the crank member and said latches, a pin on said crank member riding in said slot of the strip, a bent lever pivoted on said back member and connected to the strip, a cam on said spindle engaging said bent lever to swing the same and cause the operation of said latches in one direction, and a spring member arranged to operate the latches and connected members in the opposite directions.

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