March 4, 1930. T. HEELAN 1,749,217

FILING CABINET

Filed June 15, 1925

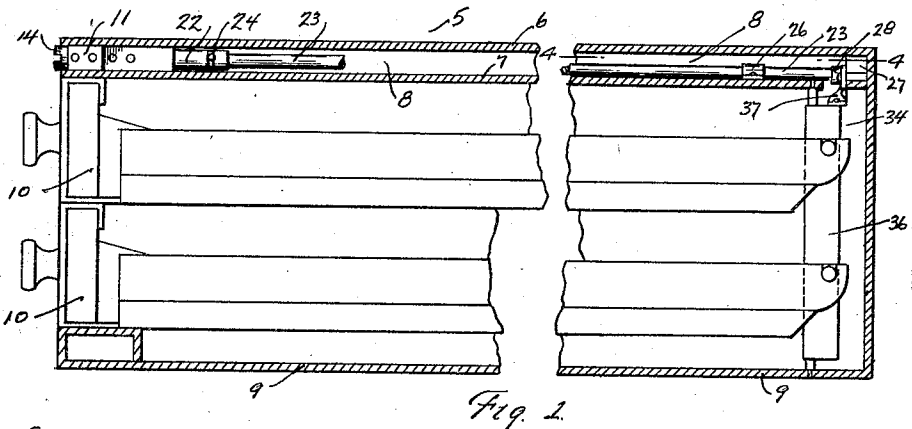



Fig. 1.

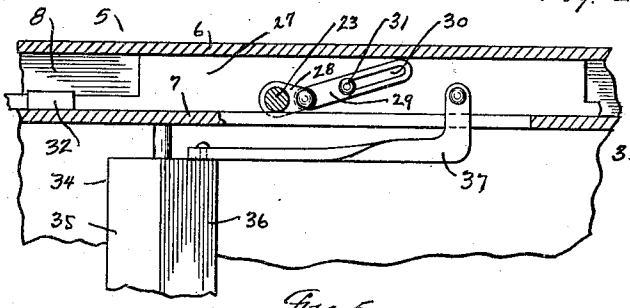



Fig. 5.

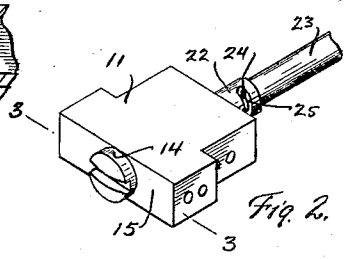



Fig. 2.

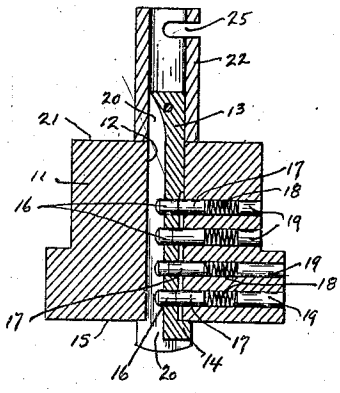



Fig. 3.

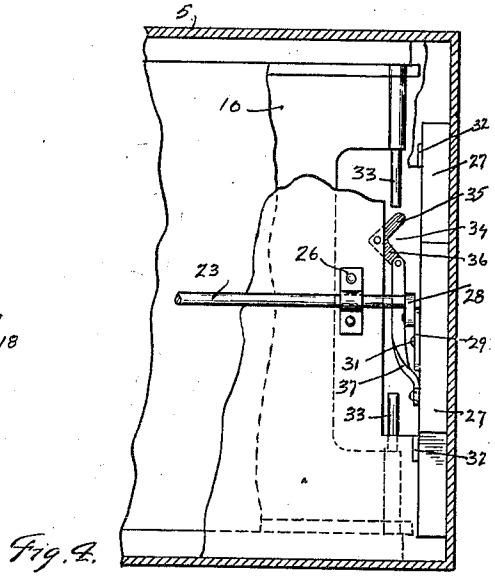



Fig. 4.

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# UNITED STATES PATENT OFFICE

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## FILING CABINET

Application filed June 15, 1925. Serial No. 37,174.

My invention relates in general to filing cabinets and in particular to locking means for use in connection with such cabinets.

It is well known to those skilled in the art that in locking means at present in card index systems of the overlapping card type, the lock is usually placed at one side of the lower drawer of the cabinet. Such position not only utilizes the space which is desirable for the display of a label, but it makes this lower drawer a special drawer, and it, therefore, can not be transferred to another cabinet or to a different position in the cabinet.

Another object of my invention has been to provide a cabinet having locking means so arranged that the drawers may all be made alike and may thus be easily transferred from one position to another, and the entire front surfaces of all the drawers be available for index labels.

Another object has been to provide locking means for such cabinets, the tumbler part of which shall be so designed that it may be placed between the interspaced walls of the cabinet.

The above objects and advantages have been accomplished by the device shown in the accompanying drawings, of which:

Fig. 1 shows a side sectional elevation of a filing cabinet embodying my invention, portions thereof broken away.

Fig. 2 is a perspective view of the tumbler part of my device.

Fig. 3 is an enlarged, sectional view of the same taken on line 3—3 of Fig. 2.

Fig. 4 is a fragmentary, plan view of my device, taken on line 4—4 of Fig. 1.

Fig. 5 is an enlarged, fragmentary, sectional, end elevation of the same.

My device comprises a tumbler element and mechanism associated therewith for engagement with the drawers of the cabinet.

In the drawings 5 represents the cabinet which is provided with the usual interspaced top walls 6 and 7, thus providing the space 8. The bottom wall of the cabinet is represented at 9. The cabinet in the drawing shows only two drawers 10, but it is obvious that my invention is applicable to cabinets with any number of drawers.

In order to accomplish the objects herein set forth, I arrange the tumbler element of my locking means in the space 8, between the top walls 6 and 7. Since my locking means must be made to fit existing cabinet constructions, it is, therefore, necessary that it be of special construction and to this end, the body 11 of the tumbler element is made of a flat block of material of a thickness substantially equal to the space 8. An aperture 12 is formed in the body 11 for the reception of the lock cylinder 13 and this aperture extends longitudinally through the body. This cylinder is provided with a head 14 which rests against the front surface 15 of the body 11. The cylinder is provided with a plurality of lateral apertures in which are disposed pin tumblers 16. The body 11 of the tumbler element is also provided with a plurality of apertures which register with the apertures in the cylinder 13 and in these are arranged a corresponding number of pins 17 which engage the pin tumblers 16. A helical spring 18 is provided for each of the pins 16, and a plug 19, carried by the body 11, is placed behind each of the springs 18 which serve to keep the springs and pins in position. These pins 19 may be driven in or secured by soldering or they may be in the form of screws, screw-threaded into the body 11. The cylinder 13 is provided with a longitudinal slot 20 for the reception of the key.

As is customary in locks of this type, the pin tumblers 16 are of such lengths that the joints between them and the pins 17 will register with the joint between the cylinder 13 and the body 11 when the proper key is inserted in the slot 20, whereby the cylinder may be rotated and the lock operated.

The rear end of the lock cylinder 13 extends some distance beyond the rear edge 21 of the body 11, and a thimble 22 is carried thereby. An operating rod 23 is carried at its forward end by the thimble 22 and it extends rearwardly through the space 8 of the cabinet. In order that the lock cylinder 13 may be rotated through one complete revolution, so as to withdraw the key both when the cabinet is locked and unlocked, it is necessary that some lost motion be provided between the locking

mechanism at the back of the cabinet and the lock cylinder. Part of this lost motion is provided by the connection between the thimble 22 and the operating rod 23. A pin 24 is carried by the rod 23 and it is disposed in an annular slot 25 formed in the thimble and extending around it for at least 180°.

The operating rod 23 is provided near its rear end with a bearing 26 which is preferably carried by the top sheet 7. A lock bar 27 is slidably carried within the space 8 and it is connected with a crank 28, carried at the inner end of the operating rod, by means of a link 29. The link 29 has one end pivotally connected with the outer end of the crank 28, and the other end of link 29 is provided with a slot 30, which engages with a pin 31 carried by the lock bar 27. The slotted connection of the link with the lock bar provides for additional lost motion necessary to permit the lock cylinder to rotate through a complete revolution. The lock bar 27 is held in place by means of guides 32.

In cabinets of the type to which my invention is applicable, the drawers are usually provided at their rear ends with inwardly projecting rods 33. A lock member 34, is usually provided in this type of cabinet for engagement with the ends of the rods 33 on one side of the drawer. This lock member is preferably of angle iron cross-section, and it is pivotally mounted in the cabinet so that when it is oscillated and thus moved to its locking position, the leg 35 thereof will engage with the end of one of the rods 33 and lock the same in position. The movement of the lock bar 27 of my device is imparted to the lock member 34 by means of a link 37 which has one end pivotally connected to the leg 36 of the lock member and the other end pivotally connected to the lock bar 27.

From the foregoing description, it will be obvious that when the key is inserted in the slot 20 of the lock cylinder 13 and the cylinder rotated in a counter-clockwise direction, the pin 24, carried by the end of the operating rod 23, will first be moved by the rotation of the thimble 22 through the slot 25 of the thimble before imparting motion to the rod. When the thimble 22 has been rotated to a position where the pin 24 will contact with the end of the slot 25, a further rotative movement of the cylinder will cause the rod to rotate and the attached crank 28 to move the link 29. The slot 30 of the link 29 will ride over the pin 31, carried by the lock bar 27, until the end of the slot strikes the pin, whereupon the lock bar will be moved in its guides, which will cause the oscillation of the lock member 34, whereupon the leg 35 of the lock member will be moved in the path of travel of the end of the rods 33, carried by the drawers and lock them in place. When the drawers are to be unlocked, a reverse movement will cause the lock member 34 to be operated after the lost motion of the link 29 and thimble 22 are taken up.

Obviously some modifications of the details herein shown and described may be made without departing from the spirit of my invention, or the scope of the appended claims, and I do not, therefore, wish to be limited to the exact embodiment herein contained, the form shown being merely a preferred form thereof.

Having thus described my invention what I claim is:

1. A drawer lock for filing devices wherein a cabinet is provided with a plurality of drawers, comprising a lock member movably mounted in the cabinet having locking cooperation with said drawers in one position, a bar member slidably mounted in said cabinet, a link connecting said lock member and bar member, an operating rod rotatably mounted in the cabinet, a lost-motion connecting mechanism between the operating rod and said bar member for transmitting the rotary motion of said operating rod to reciprocate said bar member, a key controlled and operated mechanism for operating said rod, and a lost-motion connecting means between said mechanism and said operating rod.

2. A drawer lock for filing devices wherein a cabinet is provided with a plurality of drawers, comprising a lock member movably mounted in the cabinet having a locking cooperation with said drawers in one position, a bar member slidably mounted in said cabinet, a link connecting said lock member and bar member, an operating rod rotatably mounted in the cabinet, a crank on said rod, a link pivotally mounted on the free end of said crank and having a slotted portion, a pin on said bar member engaged in the slotted portion of said crank and cooperating therewith to provide motion transmitting means between said rod and said bar member having lost-motion, and a key controlled mechanism for operating said rod member.

3. A drawer lock for filling devices wherein a cabinet is provided with a plurality of drawers, comprising a lock member movably mounted in the cabinet having locking cooperation with said drawers in one position, an operating rod rotatably mounted in the cabinet and having connections for operating said lock member in the rotation thereof to lock and unlock said drawers, a block member mounted in said cabinet, a slotted member rotatably mounted in said block member, means connecting said slotted member with said operating rod having lost-motion therein, and key controlled means controlling rotation of said slotted member in said block member.

4. A drawer lock for filing devices wherein a cabinet is provided with a plurality of drawers, comprising a lock member movably

mounted in the cabinet having locking cooperation with said drawers in one position, a bar member slidably mounted in said cabinet, a link operably connecting said lock member and bar member, an operating rod rotatably mounted in said cabinet, a lost-motion connecting mechanism between the operating rod and said bar member for transmitting the rotary motion of said operating rod to reciprocate said bar member, and operating means for rotating said operating rod.

5. A drawer lock for filing devices wherein a cabinet is provided with a plurality of drawers, comprising a lock member rockably mounted in said cabinet for locking movement into and out of drawer locking position, a bar member slidably mounted in said cabinet, a link operably connecting said bar member and adapted to rock said lock member in the sliding movement of said bar member, an operating rod rotatably mounted in the cabinet, a crank and link connection between said operating rod and said bar member for transmitting the rotary motion of said rod to slide said bar member, and operating means for said rod.

6. A drawer lock for filing devices wherein a cabinet is provided with a plurality of drawers, comprising an operating rod rotatably mounted in the cabinet, drawer engaging means in said cabinet connected for operation by said rod in the rotation thereof to lock and unlock said drawers, a block member mounted in said cabinet, a slotted member rotatably mounted in said block member and having the opposite ends projecting beyond the ends of said block member, one end of said slotted member having an enlarged head engaging one end of said block member, a sleeve mounted on the opposite end of said slotted member engaging the opposite end of said block member and retaining said slotted member against axial movement in said block member, said sleeve receiving the end of said operating rod, a pin and slot connection between said sleeve and operating rod, and key controlled means governing the operation of said slotted member.

In testimony whereof, I have hereunto signed my name.

THOMAS HEELAN.

## CERTIFICATE OF CORRECTION.

Patent No. 1,749,217. Granted March 4, 1930, to

THOMAS HEELAN.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows: Page 3, line 16, claim 5, for the word "locking" read "rocking"; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 1st day of April, A. D. 1930.

M. J. Moore,
Acting Commissioner of Patents.

(Seal)