April 8, 1969 R. A. SEWELL 3,436,939

FILE DRAWER LOCK ASSEMBLY

Filed April 17, 1967

Fig. 1

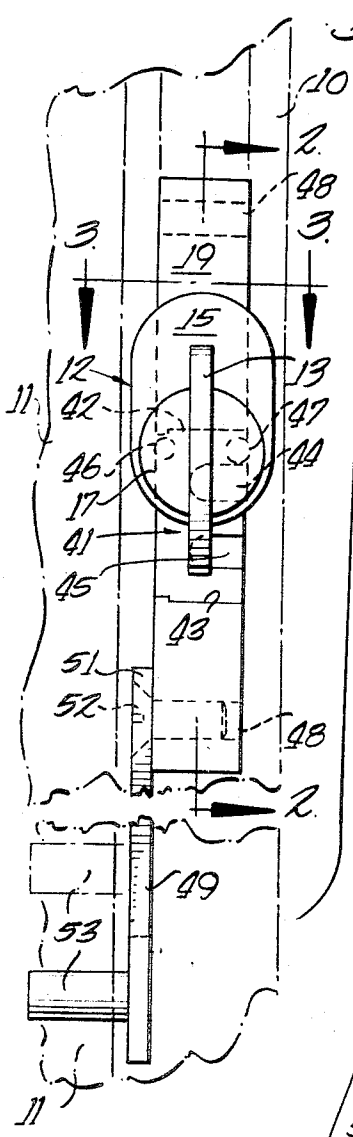


Fig. 2

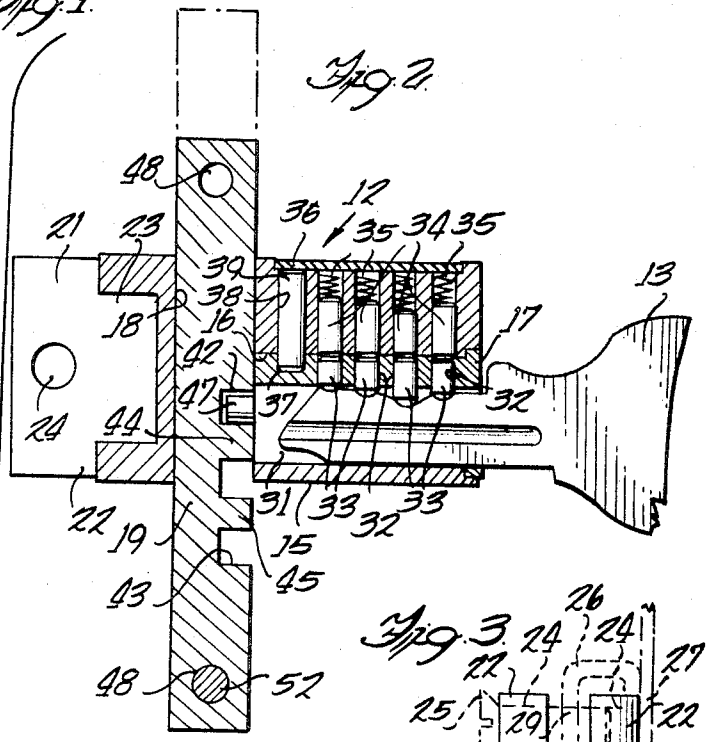


Fig. 3

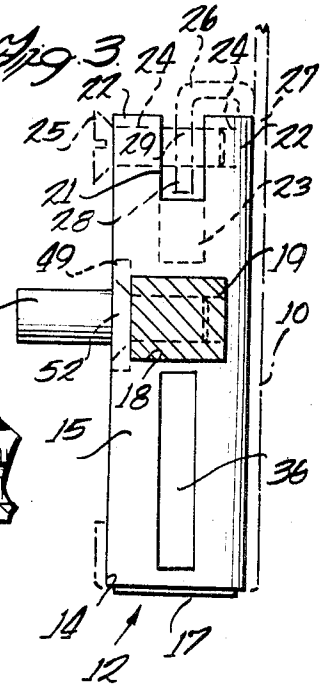


Fig. 4

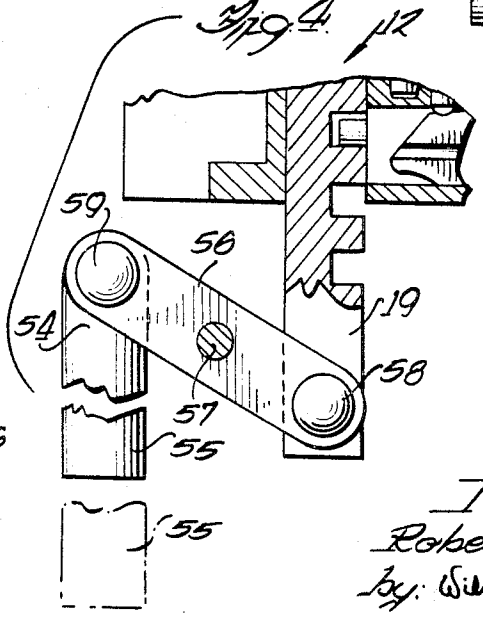
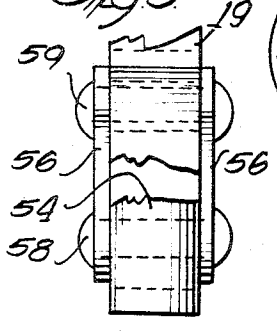


Fig. 5



Inventor
Robert A. Sewell
by: Wilson & Hepper
Attys

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FILE DRAWER LOCK ASSEMBLY

Robert A. Sewell, Rockford, Ill., assignor to Keystone Consolidated Industries, Inc., a corporation of Delaware

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4 Claims

ABSTRACT OF THE DISCLOSURE

A lock assembly utilized in a file cabinet to lock the drawers therein having a generally elongated housing for a tumbler lock with the plug retained in the housing through a retaining pin and terminating in a pair of axially offset pins operatively connected to and actuating a vertically reciprocable lock bolt. The lock bolt includes a recess having opposed barrier walls and a pair of laterally extended vertically spaced arms cooperating with the plug pins, and the bolt extends beyond the housing and is connected to and actuates a linkage which provides the locking action for the file drawers.

The present invention relates to a novel lock assembly for a file cabinet to lock the file drawers thereof, and more particularly to a lock assembly having a vertically reciprocable lock bolt extending beyond the lock at each end and connected to a linkage actuating the locking means for the file drawers.

Among the objects of the present invention is the provision of a lock assembly which is easily and quickly installed in a file cabinet utilizing a single screw to retain the lock therein. The lock assembly includes a housing or cylinder which has the outer face received in an opening in the file cabinet and has a vertically slotted rear end portion with a lateral threaded opening extending through the arms or bifurcations formed by the slot. The slot receives a flange formed in the cabinet having an opening to be aligned with the threaded opening through the arms for a suitable screw to extend into the threaded openings and through the flange.

Another object of the present invention is the provision of a lock assembly for a file cabinet having a cylinder lock and a vertically reciprocable lock bolt mounted in an opening in the lock cylinder and extending beyond the lock cylinder. The lock cylinder includes a lock plug having a pair of spaced axially offset pins on the inner end thereof which extend into a recess in the lock bolt. The recess in the bolt includes oppositely disposed barrier walls and a pair of laterally extending vertically spaced arms which cooperate with the pins on the plug during rotation of the plug to cause vertical movement of the bolt relative to the cylinder.

A further object of the present invention is the provision of a lock assembly for a file cabinet having a vertically reciprocable bolt actuating the locking mechanism for the file cabinet drawers. One or both ends of the lock bolt are connected to a linkage which the bolt actuates upon reciprocation. The linkage actuates a locking member which cooperates with a file drawer in the cabinet to prevent withdrawal of the drawer from the cabinet.

Further objects are to provide a construction of maximum simplicity, efficiency, economy and ease of assembly and operation, and such further objects, advantages and capabilities as will later more fully appear and are inherently possessed thereby.

In the drawing:

FIGURE 1 is a front elevational view of the lock assembly for a file cabinet actuating one embodiment of drawer locking means.

FIG. 2 is a vertical cross sectional view of the lock assembly taken on the line 2—2 of FIG. 1.

FIG. 3 is a horizontal cross sectional view of the lock assembly taken on the line 3—3 of FIG. 1.

FIG. 4 is a partial side elevational view of a second embodiment of drawer locking means showing a partial cross sectional view of the lock assembly similar to FIG. 2.

FIG. 5 is a partial rear elevational view of the drawer locking means of FIG. 4.

Referring more particularly to the disclosure in the drawing wherein is shown illustrative embodiments of the present invention, FIG. 1 discloses a file cabinet **10** having file drawers **11** therein mounted for reciprocable horizontal motion, and a lock assembly **12** operated by a suitable key **13** to actuate a locking mechanism to lock the individual file drawers within the cabinet so that they cannot be withdrawn and access obtained to their contents by unauthorized personnel. The file cabinet **10** has an opening **14** (FIG. 3) receiving the front end of the lock assembly **12** to expose the face of the assembly for access by the key.

The lock assembly includes a housing or cylinder **15** having a generally central passage **16** for a rotatable lock plug **17**, the passage terminating at and opening into a generally vertical passage **18** receiving a vertically reciprocable lock bolt **19**; the cross section of the lock bolt **19** being complementary to the cross section of the passage **18**. Rearwardly of the passage **18**, the housing **15** is provided with a vertical slot **21** forming arms or bifurcations **22**; a central portion **23** of the slot extending into the housing **15** as seen in FIGS. 2 and 3. Aligned threaded openings **24** are formed in arms **22** to accommodate a threaded fastener or screw **25**. The file cabinet **10** includes an arm or flange **26** extending inward from the side wall **27** of the cabinet **10** (FIG. 3) behind the housing **15** and then inturned as at **28** to extend into the slot **21**. The inturned end **28** includes an opening **29** aligned with the threaded openings **24** to receive the threaded fastener **25** and thus in cooperation with the opening **14** for the front end of the assembly **12** to secure the housing **15** in the cabinet **10**.

The lock plug **17** has a keyway **31** adapted to receive a suitable key **13** and passages **32** intersecting the keyway and receiving tumblers **33** actuated by the bitings on the key. The housing **15** also includes passages adapted to be aligned with passages **32** in the plug and receiving driver pins **34** and tumbler springs **35**; the passages **33** being closed at their upper ends by a tumbler retaining plate **36**. The plug **17** also includes a peripheral slot **37** formed on the circumference of the plug rearwardly of the tumblers **33**, and aligned with a passage **38** in the housing **15** receiving a plug stop pin **39** retaining the plug in the housing **15**. The plate **36** also covers the outer end of the passage **38**.

The lock bolt **19** is an elongated member, generally square in cross section, extending beyond the cylinder **15** both above and below the opening **18**. The bolt has a recess **41** in the side of the bolt facing the lock plug **17** and extending across the bolt; the recess having upper and lower barrier walls **42** and **43**, respectively, and a pair of vertically spaced projections or arms **44** and **45** extending laterally in the recess from one edge and partially thereacross. The lock plug includes at its rear face a pair of spaced axially offset pins **46** and **47** which extend into the recess **41** and cooperate with the upper and lower arms **44** and **45**, respectively. Rotation of the pins **46**, **47** and the plug **17** causes vertical reciprocation of the bolt **19** in a manner to be later described.

The bolt **19** has an opening **48**, preferably threaded, adjacent each end of the bolt for attachment to a linkage to actuate the locking of the file drawers. In FIG. 1, an

elongated member **49** has its upper end **51** provided with an opening adapted to be aligned with the opening **48** in the bolt and receive a suitable fastener, such as a screw **52**. At the opposite end of the member **49** extending alongside of the file drawers is a laterally extending locking pin **53** which is received in a notch or slot in a flange or other portion of the file drawer **11** to prevent the drawer from unauthorized withdrawal from the cabinet. The pin **53** shown in full lines in FIG. 1 is positioned in its unlocked position while the pin in dotted lines is in its reciprocated locked position. Additional pins **53** are positioned along the member **49** for the locking of the remaining drawers in the cabinet. An additional member **49** can be secured to the upper end of the bolt **19**, if required.

Referring to FIGS. 4 and 5, another embodiment of linkage is shown to reciprocate an elongated locking member **54** having its depending end **55** received in an opening in a flange or other portion of the file drawer; the member being shown in full lines in its unlocked position and in dotted lines in its reciprocated locked position. A pair of spaced parallel links **56** are mounted on a pivot pin **57** suitably secured in the cabinet **10** and having one pair of ends secured to a rivet or pin **58** received in the lower opening **48** in the bolt **19** and the opposite pair of ends mounted on the member **54** by a second rivet **59** received in an opening in the member. Downward movement of the bolt **19** is translated through the parallel links **56** to upward movement of member **54**.

In operation with the bolt **19** in its lower unlocked position, the pins **46**, **47** on the rear end of the plug **17** are horizontally arranged, as seen in FIG. 1, above the upper arm **44** adjacent the upper barrier wall **42**. Insertion of the proper key **13** in the keyway **31** actuates the tumblers **33** and driver pins **34** to allow the plug to rotate. Upon counterclockwise rotation of the key **13** and plug **17**, the pin **46** moves around the end of arm **44** and into the space between the arms **44**, **45** and urges arm **44** upward.

The pin **47** moves away from barrier wall and around the inner end of both projections or arms **44**, **45** and into the space between the lower arm **45** and lower barrier wall **43** to urge the lower arm **45** upward. Then the pin **46** moves out of the space between the arms around the inner end of arm **45** to abut the lower barrier wall **43** and is horizontally aligned with pin **47**. Thus, the combined movements of the pins **46**, **47** cause the upward movement of the bolt **19**. To return the bolt to unlocked position, the plug **17** is rotated clockwise and the movements of the pins **46** and **47** are reversed. As the plug makes a complete 360° revolution to shift the bolt, the key **13** can be removed in either the locked or unlocked position of the bolt.

While the improvement has been shown and described as being advantageously applicable to a file drawer lock for a file cabinet, it is not my desire or intent to unnecessarily limit the scope or the utility of the improved features by virtue of this illustrative embodiment.

Having thus disclosed my invention, I claim:

1. A lock assembly for a file cabinet having a flanged member thereon terminating in an inturned end with an opening therein, comprising a tumbler lock including a lock cylinder with an offset axially extending passage therein terminating at and opening into a transversely extending passage through the cylinder intermediate the ends thereof, the rear end of the cylinder beyond said transverse passage having a transverse slot therein forming a pair of spaced parallel arms, said arms having aligned laterally extending threaded openings therein, said slot receiving the inturned end of the flanged member on the cabinet with the opening therein aligned with the threaded openings, a threaded fastener extending into and through said openings and threadingly engaging said arms to secure the cylinder in the file cabinet, an elongated reciprocable lock bolt conformably received in said transverse passage and extending beyond the cylinder, a rotatable plug mounted in said axially extending passageway, said plug having a circumferential groove therein, a stop pin in said cylinder having its inner end received in said groove to retain the plug in the cylinder, means on said plug and bolt cooperating to reciprocate said bolt upon rotation of the plug, an elongated locking bar, and means to link said locking bar and said bolt together for movement between a locked and unlocked position in the file cabinet.

2. A lock assembly as set forth in claim **1**, in which said cooperating means on said plug and bolt includes a pair of rearwardly extending spaced axially offset pins on said plug, said reciprocable bolt having a recess intermediate the ends thereof receiving said spaced pins, said recess extending completely across the bolt and having upper and lower barrier walls, and a pair of laterally extending axially spaced parallel arms in the recess and extending partially across the recess from one edge thereof, said pins cooperating with said arms and barrier walls in the recess to reciprocate the bolt upon rotation of said plug.

3. A lock assembly as set forth in claim **1**, in which said linkage means includes an end on said locking bar adjacent said tumbler lock having an opening therein, said lock bolt having an opening adjacent one end thereof aligned with the opening in said locking bar, and a fastener extending through the opening in the locking bar and the aligned opening in the lock bolt to secure the bolt and bar together.

4. A lock assembly as set forth in claim **1**, in which said linkage means includes a fixed pivot pin mounted in the cabinet, a pair of parallel spaced links mounted on said pivot pin intermediate their ends, one pair of ends of said links positioned on opposite sides of and secured to one end of said bolt, and the opposite pair of ends of the links positioned on opposite sides of and secured to one end of the locking bar, so that movement of said bolt in one direction will cause movement of said bar in the opposite direction.

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MARVIN A. CHAMPION, *Primary Examiner.*

R. L. WOLFE, *Assistant Examiner.*

U.S. Cl. X.R.

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