Feb. 27, 1962 R. G. MOHR ET AL 3,023,066

DRAWER LOCK

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FIG. 1

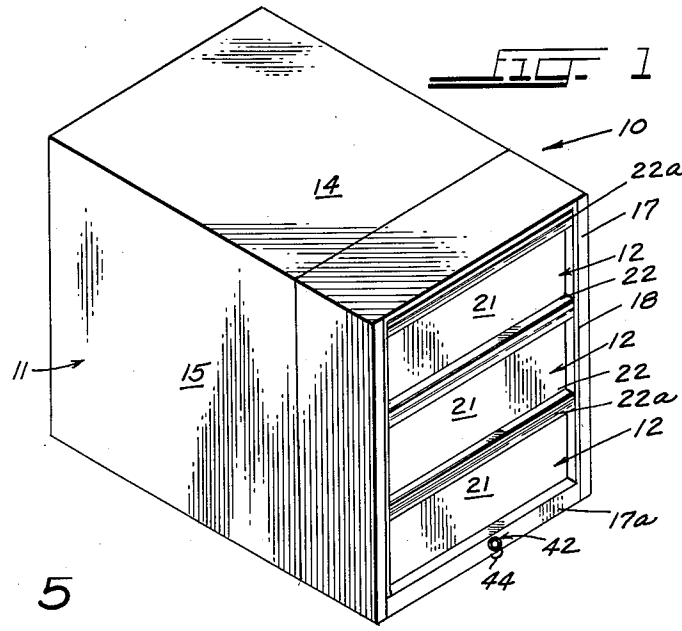


FIG. 5

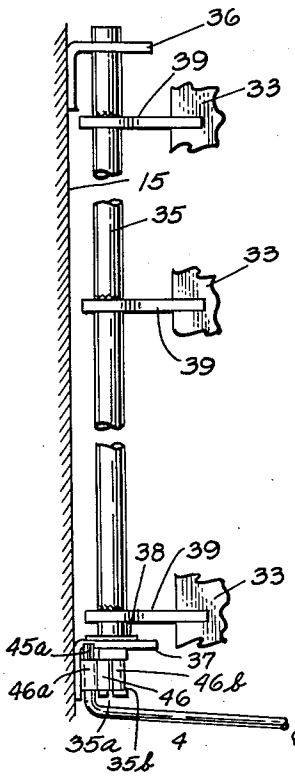
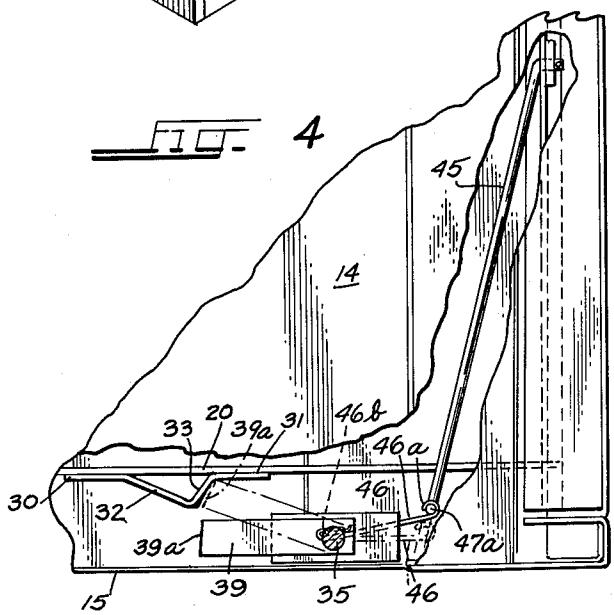
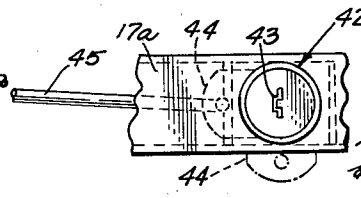


FIG. 4





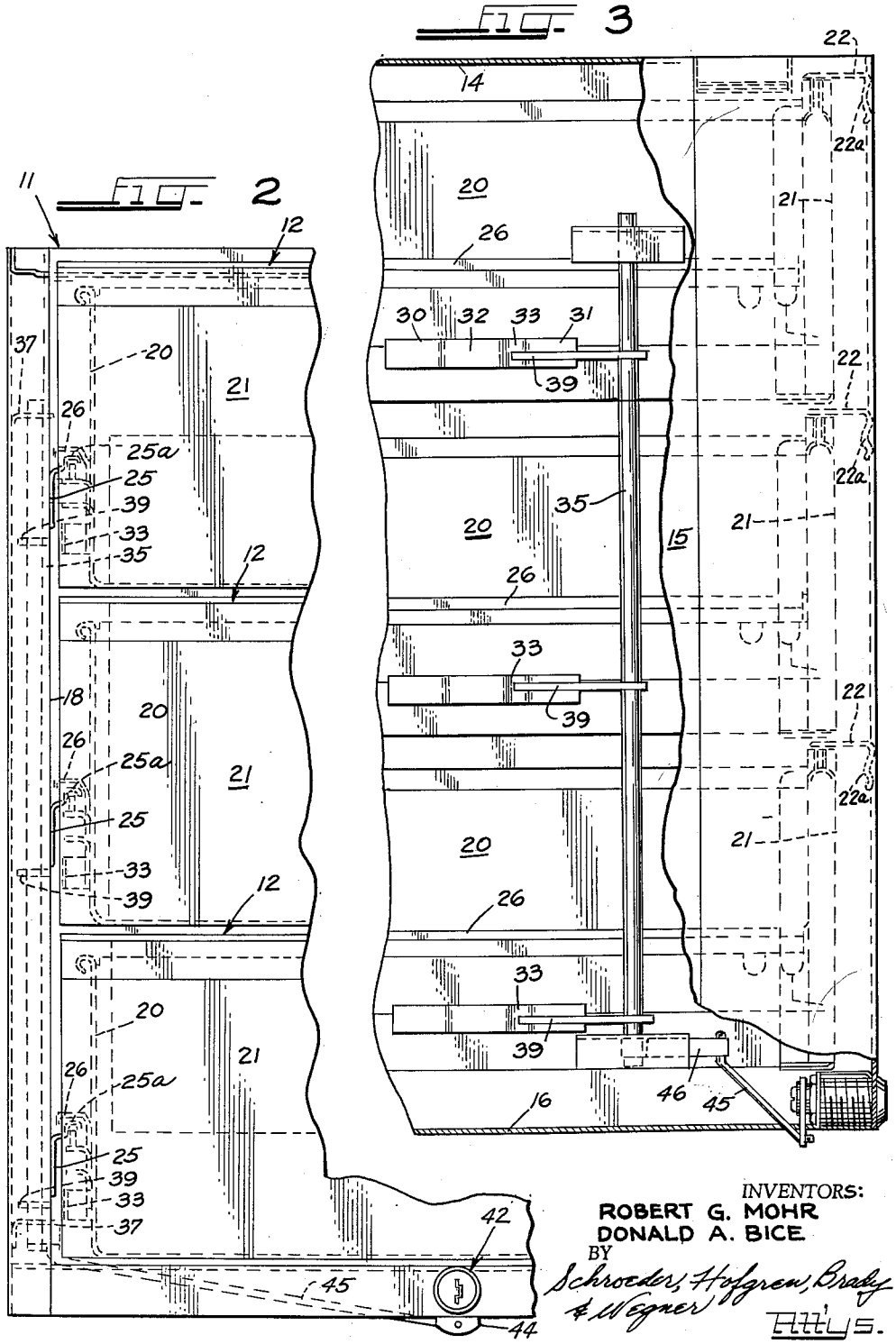
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FIG. 3



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DRAWER LOCK

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2 Claims. (Cl. 312—219)

This invention relates to a drawer lock and more particularly to a lock mechanism for a plurality of drawers as in a drawer assembly, a desk, or the like.

It is a general object of the invention to provide a new and improved drawer lock of the type described.

A more specific object is to provide a new and improved drawer lock of the type described which enables closure of one or more open drawers even though the lock mechanism is in lock position.

Another object is to provide a new and improved drawer lock of the type described including a yieldable actuating mechanism for moving lock members to and from lock and unlock positions and enabling closure of an open drawer while the lock members are in lock position.

Further objects and advantages will become apparent from the following detailed description taken in connection with the accompanying drawings in which:

FIG. 1 is a front perspective view of a drawer assembly embodying the principles of the present invention;

FIG. 2 is an enlarged fragmentary front elevational view of the drawer assembly illustrated in FIG. 1;

FIG. 3 is an enlarged fragmentary side elevational view of the assembly illustrated in FIG. 1, partly broken away to better illustrate the working parts;

FIG. 4 is an enlarged fragmentary top plan view of the assembly illustrated in FIG. 1, partly broken away to better illustrate the working parts; and

FIG. 5 is a diagrammatic front elevational view of the lock mechanism per se, illustrating the parts in locking positions.

While this invention is susceptible of embodiments in many different forms, there is shown in the drawings and will herein be described in detail an embodiment of the invention with the understanding that the present disclosure is to be considered as an exemplification of the principles of the invention and is not intended to limit the invention to the embodiment illustrated. The scope of the invention will be pointed out in the appended claims.

Referring now to the drawings in more detail, the invention in a preferred form, is illustrated in a three-drawer assembly generally designated 10 and including an outer frame or cabinet 11 which provides a housing for the three drawers which may be identical and have accordingly all been identified by the reference number 12. The frame 10 preferably includes a top wall 14, side walls as at 15, a bottom wall 16 (FIG. 3), and these cooperate to provide a front framing 17 and a single opening 18 into which the three drawers are fitted.

As best illustrated in FIGS. 2 and 3, the drawers 12 may be conventional in that they include side walls as at 20, front walls as at 21, bottom walls not visible, and rear walls not visible. When the drawers are in closed positions as illustrated in FIGS. 1, 2 and 3, the front wall 21 of each drawer is recessed rearwardly somewhat from the plane of the front framing 17 around the opening 18, as will be best understood by reference to FIG. 3, and each front wall includes at the top thereof, a handle as at 22 which includes a downwardly extending flange 22*a* lying substantially in the plane of the framing 17 and facilitating manual grip of the drawer to open or close the same.

The drawers 12 are slidably mounted in the frame 11 by means best illustrated in FIGS. 2 and 3, including at

each side of the frame a plurality of vertically spaced drawer guides 25, one for each drawer and each including an upper inwardly extended guide flange 25*a* elongated in a front to rear direction. The guides 25 are suitably retained in position as by welding or otherwise securing the lower portions of the guides to the side wall 15 of the frame. The guide flanges 25*a* are adapted to support outwardly extending flange-like drawer support members 26 one attached to each drawer side wall 20, also elongated in a front to rear direction and slidable on the associated flange 25*a*, thereby to mount the drawers for sliding movement forwardly and rearwardly between open and closed positions.

In order to facilitate locking of the drawers, each is preferably formed at one side to include a forwardly facing locking abutment. In the preferred embodiment illustrated the locking abutment is provided by means of a strap-like band having opposite ends as at 30 and 31 welded or otherwise secured to a drawer side wall 20 and including a triangularly outwardly extending mid-portion formed in part of a forwardly and outwardly inclined portion 32 and a rearwardly and outwardly inclined portion 33, the latter of which comprises the locking abutment referred to and is engageable by a selectively operable locking member to prevent drawer opening, as will appear.

The locking mechanism includes at or near a front corner of the frame 11, an upright locking rod 35 which is turnable about its longitudinal axis preferably in bearings provided as by angled pieces 36 and 37 both suitably secured to the side wall 15 as by welding. A collar 38 on the rod retains the rod in the bearings. The rod 35 is provided with a plurality of vertically spaced locking members 39, one for each locking abutment 33, the locking members 39 each taking the form of a rearwardly extending arm having an end portion 39*a* movable between an unlock position illustrated in full line in FIG. 4 enabling pasage of the abutment 33 and opening of the drawer and a lock position illustrated in broken line in FIG. 4 in the path of the abutment 33 to prevent drawer opening. Movement of the locking members 39 occurs with movement of the rod 35 as the former are welded or otherwise secured to the latter.

Turning movement of the rod 35 is obtained by means of an actuating mechanism including a conventional cylinder lock 42 mounted in the lower front portion 17*a* of the frame structure and operable in a conventional manner as by inserting a key in the keyhole 43 to obtain rotation of a barrel having an outwardly projecting actuating arm 44. The arm 44 is connected pivotably to one end of a rigid connecting link 45 which has its opposite end pivotally connected to the end of a resiliently yieldable arm 46 having one end affixed to the rod 35. The arm 46 preferably comprises a strip of spring-like metal having sufficient strength to transmit the motion of link 45 in either direction to the rod 35 to thereby obtain movement of the locking members 39 on manipulation of the key operable lock 42.

Arm 46 is attached to link 45 as by having an end portion of the former looped as at 46*a* to fit over an upturned end 45*a* of rod 45. Arm 46 is attached to rod 35 as by having an end portion of the former fitted in a longitudinally extending transverse slot 35*a* in the end of the rod, and then bent back upon itself as at 46*b* and fitted in an exterior notch 35*b* on the rod. The fit of the arm 46 in slot 35 constrains the arm to move with the rod, and the fit of end 46*b* in notch 35*b* retains the arm on the rod.

The resilient arm 46 has the important function of enabling closure of an open drawer even when the lock 42, arm 44, and link 45 are in lock positions as illustrated in full line in FIG. 5 and in broken line in FIG. 4. This occurs by virtue of the inclined piece 32 on the side of

the drawer engaging the side of lock member **39** when positioned as illustrated in broken line in FIG. 4 to cam the lock member thus engaged, together with the other lock members and the rod **35** to an unlock position enabling closure of the drawer even though no movement of the arm **44** and rod **45** from the position illustrated in FIG. 5 occurs. After the abutment **33** reaches the position shown in FIG. 4 during the drawer closing movement, the locking members **39** return to the locking position shown in broken lines in FIG. 4 due to the urge of the spring arm **46**. During the drawer closing movement, the link **45** and the arm **44** do not move, the link **45** being substantially aligned with the arm **44** so that the link **45** does not tend to turn the arm **44**. If desired, the lock **42** may include means offering resistance to turning of the arm **44** unless a proper key is inserted in the keyhole **43**. It will be appreciated that the arm **46** is a positive motion transmitting member for imparting the movement of the lock **45** to the rod **35** in either direction while at the same time enabling movement of the rod **35** without movement of the link **45**.

We claim:

1. A drawer assembly, comprising, a frame, a plurality of drawers mounted one above the other in the frame for sliding movement forwardly and rearwardly between open and closed positions, each drawer having at one side thereof a forwardly facing lock abutment, a locking rod mounted in an upright position in the frame at one side of the drawers for turning about its upright axis, a plurality of lock members fixed on the rod at vertically spaced positions, one for each lock abutment, each movable with the rod between an unlock position enabling lock abutment passage and drawer opening and a lock position in the path of the lock abutment to prevent drawer opening, a key operable lock actuating member pivotable on a horizontal axis in the front of said frame and having a crank arm movable toward and away from the rod on pivoting the actuating member, a single link having one end pivotally connected to the arm, and an arm of resiliently yieldable material having one end fixedly mounted on the rod and the opposite end pivotally connected to the other end of said link for transmitting the motion of the link in either direction to the rod and lock members and yieldable to enable closure of an open drawer while the actuating member and link are in lock position.

2. A drawer lock, comprising, an upright lock rod turnable about its upright axis, a lock member extending laterally from the rod and movable therewith between a lock position and an unlock position, a pivoted manually operable crank arm having an end portion movable toward and away from the rod, a link having one end pivotally connected to the crank arm, and a resiliently yieldable arm mounted on the rod and connected to the other end of said link to transmit the motion of the crank arm and link in either direction to turn the rod and enabling movement of the rod and lock member from lock to unlock position while the crank arm and link remain in lock position, said yieldable arm comprising a strip of flat spring metal, said link having an upturned terminus at said other end and said strip having one end looped about said terminus to thereby pivotally connect the link and the strip, said rod having a transverse slot in the lower end thereof and said strip having a portion in said slot thereby constraining the strip to turn with the rod, said rod having an external notch adjacent said slot, and said strip having a terminus bent back upon the strip and fitted in said notch to retain the strip in said slot.

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