

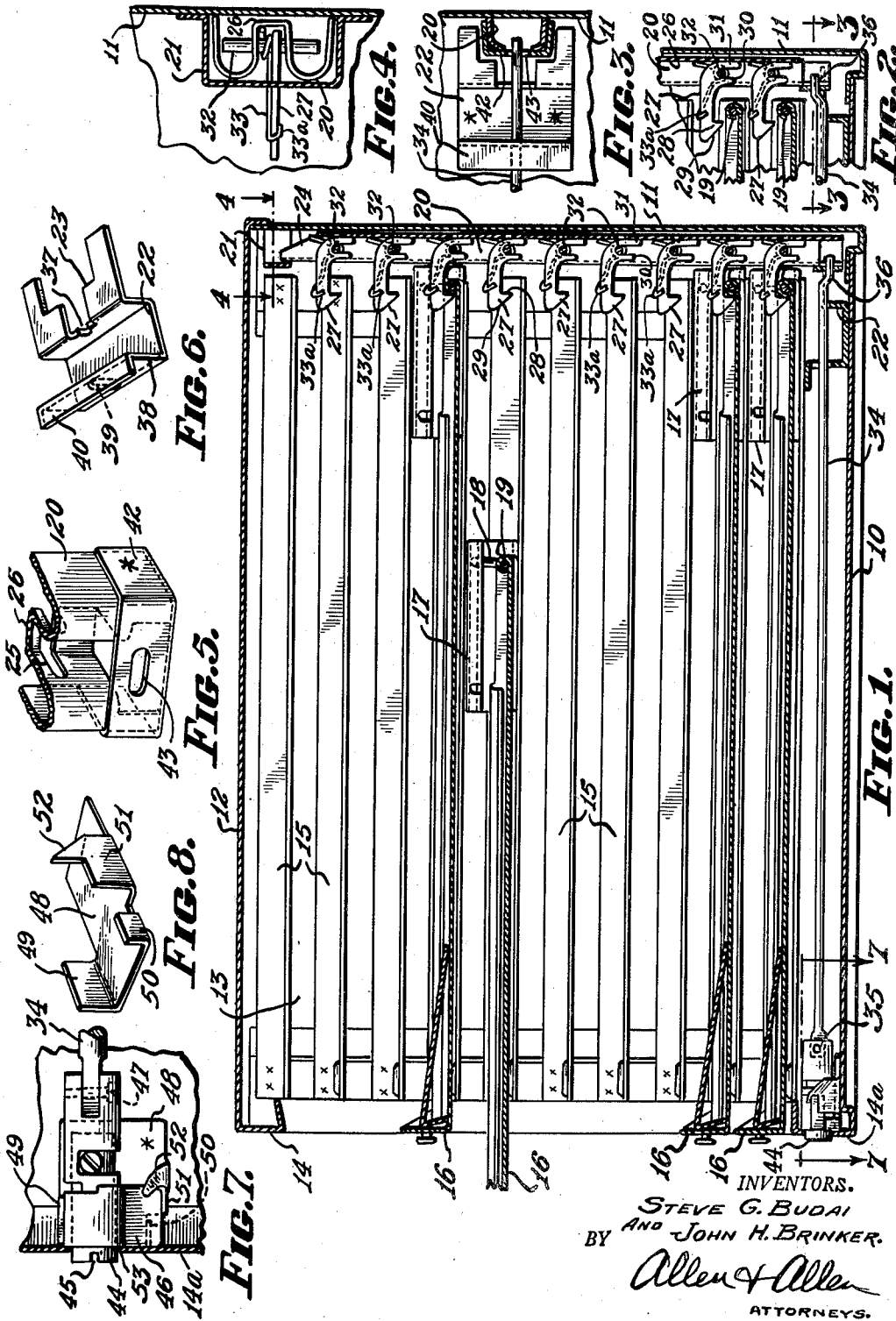
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S. G. BUDAI ET AL

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DRAWER CABINET LOCKING STRUCTURE

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INVENTORS.
STEVE G. BUDAI
AND JOHN H. BRINKER.
BY *Allen & Allen*
ATTORNEYS.

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DRAWER CABINET LOCKING STRUCTURE

Steve G. Budai, Norwood, and John H. Brinker,
Cincinnati, Ohio, assignors to The Globe-Wernicke Co., Norwood, Ohio, a corporation of Ohio

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This invention relates to a drawer cabinet locking structure and in particular to a structure suitable for locking a cabinet containing visible record trays.

With a cabinet of this type it is desirable that means be provided whereby, when all the drawers are closed, all drawers can be locked by means of a single lock. It is likewise desirable that if the cabinet has been locked before all the drawers have been closed that such drawers can be closed and locked without having to unlock the entire cabinet.

Structures for such purposes have been provided heretofore in connection with filing cabinets and desk pedestals and the like, but it is an object of our present invention to provide a structure which is simpler in construction and therefore less expensive to manufacture than any with which we are familiar. It is another object of our invention to provide a structure which is extremely simple to assemble and disassemble, whereby manufacturing costs are still further reduced. A further object of our invention includes the provision of a novel mounting for the lock whereby the lock can be installed in the cabinet in a minimum of time and without the use of special tools.

These and other objects of our invention which we shall describe in more detail hereinafter, or which will be apparent to those skilled in the art upon reading this specification, we accomplish by that certain construction and arrangement of parts of which we shall now describe an exemplary embodiment.

Reference is made to the drawings forming a part hereof and in which:

Fig. 1 is a central vertical cross section through a visible record cabinet embodying our invention.

Fig. 2 is a fragmentary view of the lower right hand corner of Fig. 1, but with the locking structure in its open position.

Fig. 3 is a fragmentary cross sectional view taken on the line 3—3 of Fig. 2.

Fig. 4 is a fragmentary cross sectional view taken on the line 4—4 of Fig. 1.

Fig. 5 is a fragmentary perspective view of the bottom of the latch carrier.

Fig. 6 is a perspective view of the bottom strap member.

Fig. 7 is a fragmentary cross sectional view taken on the line 7—7 of Fig. 1 on an enlarged scale.

Fig. 8 is a perspective view of the lock mounting plate.

Briefly in the practice of our invention we pro-

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vide a lock at the front of the cabinet and preferably, although not necessarily, at the bottom thereof. The lock is preferably of the barrel type so that it is locked and unlocked by a 180° rotation of its barrel. A rod extends from the lock barrel to the rear of the cabinet where it terminates in a crank element. The crank element actuates a latch carrier provided with a series of yieldable latches, one for each drawer in the cabinet.

In Fig. 1 we have shown a cabinet having a bottom panel 10 and a rear wall 11. The top wall is indicated at 12 and side walls at 13. The top, bottom, and side walls will preferably have inwardly turned flange portions to provide a frame 14 around the front of the cabinet. A series of runners 15 are provided for the drawers in the cabinet, some of which are indicated generally at 16. The drawers may be mounted in carriers 17 by means of hangers 18, as disclosed in the co-pending application of John H. Brinker, Serial No. 736,543, filed March 22, 1947. The rear end of the drawer, as disclosed in said application is provided with a rolled edge 19, and we make use of the rolled edge 19 for engagement with the latch member.

At the rear of the cabinet, we provide a latch carrier, indicated generally at 20, upon which the individual latches are pivotally mounted. The latch carrier 20 itself is mounted for vertical sliding movement and is retained against the back wall 11 of the cabinet by a strap 21 at the top of the cabinet and a member 22 at the bottom of the cabinet. The member 21 is shown in cross section in Fig. 4 and the member 22 is shown in plan in Fig. 3 and in perspective in Fig. 6. The member 22 has a cut out portion 23 which serves the same function at the bottom as the member 21 serves at the top. The member 22 is secured by spot welding or the like to the panel 10 and has other functions, which will be described hereinafter.

The member 20, as may be clearly seen in Fig. 4, is of double U cross section with the adjacent arms of the U joined at their ends. At the top it is beveled as at 24 for ease in assembling, and it is provided with a number of slots 25 (best seen in Fig. 5), one for each drawer in the cabinet. The slots 25 are horizontally disposed and extend entirely across the joining portion 26 of the carrier and extend partially into the adjacent arms of the U.

The latches themselves are indicated generally at 27 and comprise the hook portions 28, which are adapted to engage over the rolled edges 19 of

the drawers and have the cam surfaces 29, the function of which will be described hereinafter. At their rear ends, the latch members 27 are provided with the forks comprising the tine 30 and the tine 31. The forks pivot respectively on pins 32 and are urged in a counterclockwise direction, as seen in Figs. 1 and 2 by the springs 33.

The individual latches are assembled to the carriers as follows: The pin 32 is inserted through the slot 25 and the spring 33 is slipped on to it so that the spring will surround the pin 32 and the latch member is then assembled with the tines 30 and 31 embracing the pin 32, so that the tine 31 extends between the pin 32 and the joining portion 26 of the carrier. The forward end of the spring 33 is raised, and the hook element 33a is engaged over the top of the latch. It will be clear that when thus assembled, the pin 32 is held in the slot 25, and the latch 27 is pivotally mounted on the pin 32 and urged in a counterclockwise direction by the spring 33 to its limiting position, which is determined by the tine 31 bearing against the joining portion 26 of the carrier.

The carrier is raised to unlock the drawers and lowered to lock the drawers by means of the rod 34, which is connected as at 35 to the lock at the front of the cabinet and which is provided with the crank 36 at its rear end. The rear end of the rod 34 is supported in the semicircular notch 37 in the member 22 and the portion 38 of the member 22 is provided with a slot 39 to permit passage of the crank portion 36 during assembly. The portion 38 terminates in the flange 40 which constitutes the upper bearing surface for the rod 34, while the notch 37 constitutes the lower bearing surface for said rod.

The carrier 20 at its bottom is provided with the member 42, which may be spot welded thereto and has in its front face, the horizontal slot 43. This slot is at least twice the eccentricity of the crank 36 in length. It will be clear that as the rod 34 is rotated through 180°, the crank 36 riding in the slot 43 will raise or lower the entire carrier 20. The carrier is shown in its lowered position in Fig. 1 in which the hooks 28 of the latches can engage over the rolled edges 19 of the drawers. In the raised position of the carrier, shown in Fig. 2, the hooks 28 clear the rolled edges 19. If the carrier is in its lowered position, as shown in Fig. 1, and one or more drawers have not been fully closed, they can nevertheless be closed and locked by simply pushing them all the way in. When the rolled edge 19 abuts the cam surface 29 of the latch, the latch is caused to rise against the tension of the spring 33, until it can snap back over the rolled edge 19.

We prefer to use a lock of the barrel type having a barrel 44 provided with the key hole 45 and having a laterally extending lug 46. The forward end of the rod 34 is fastened in a fork at the rear end of the barrel, as by means of a screw 47. In this type of lock the lug 46 is held stationary while the barrel 44 turns therein.

We have provided a novel mounting plate for the lock, which plate is indicated generally at 48. This plate is provided with a flange 49 and an upstanding abutment 50. It is also provided with the flange 51 having a clinching extension 52.

The plate 48 is fastened as by spot welding to the bottom panel 10, and the lock is assembled thereto as follows: the key hole end of the barrel is inserted through the aperture 53 in the front flange 14a of the cabinet and the lug bears against the flange 49 and rests upon the abutment 50. The flange 51 extends upward past the lug 46 and the portion 52 is clinched over at an angle, as shown in Figs. 7 and 8. In this condition the lock is securely held in place. It is held against forward movement by the wall 14a, and it is held against rearward movement by the clinching element 52. It is held against rotational movement in either direction by cooperation of the abutment 50 and the clinching element 52 with the lug 46.

With the lock installed as just described, the rod 34 can be inserted through the slot 39 and the slot 43, and it can then be fastened to the barrel by means of the screw 47, as previously described.

It is believed that the construction and operation of this device will be clear from the foregoing description. Various modifications may, of course, be made without departing from the spirit of the invention and therefore we do not intend to limit ourselves, except as set forth in the claims which follow.

Having now fully described our invention what we claim as new and desire to secure by Letters Patent is:

1. In a cabinet having a series of superposed drawers and a lock, a carrier for a series of latch members equal in number to said drawers, said carrier being actuatable by said lock, said carrier being substantially double U-shaped in cross-section with the ends of the adjacent frames of said U's joined together, said carrier being vertically disposed at the rear of said cabinet for limited vertical movement, and having a series of latch mounting slots equal in number to said drawers, said slots being horizontally disposed and extending through the joining portion between said U's and partially into the adjacent arms thereof.

2. The structure of claim 1, in which each of said latch members has a forked rear portion, a pin in each of said slots, said forked portion being engaged over said pin with the rear time passing between said pin and said joining portion to hold said pin in place.

3. The structure of claim 2, in which a spring is provided for each latch member tending to rotate the same about said pin, said rotational movement being limited by contact of said rear time with said joining portion.

STEVE G. BUDAL
JOHN H. BRINKER.

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