

Dec. 12, 1933.

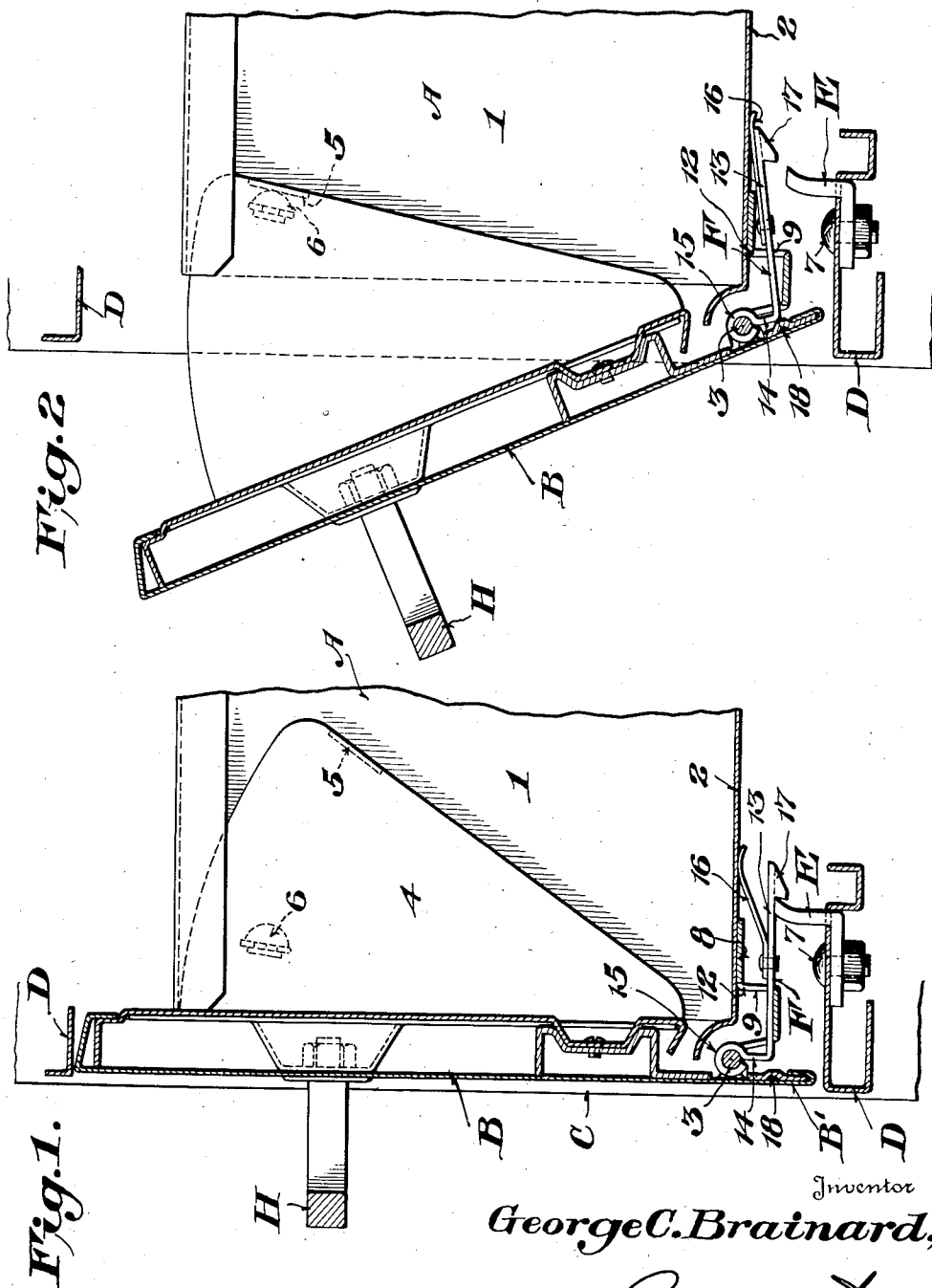
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1,939,487

AUTOMATIC LATCH FOR FILING DRAWERS

Filed Aug. 24, 1933

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

Fig. 3.

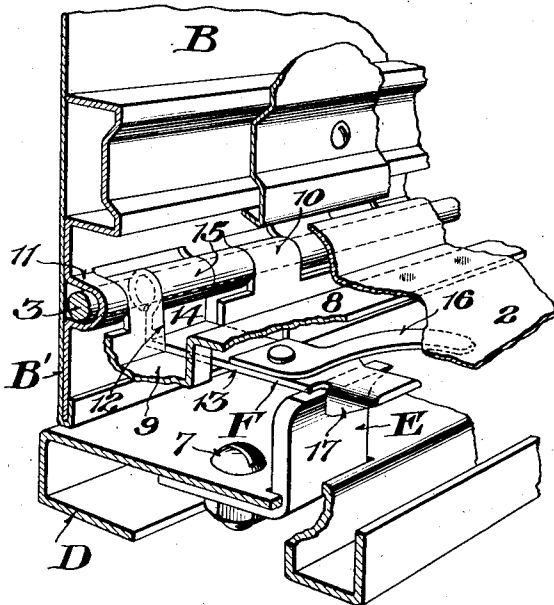


Fig. 4.

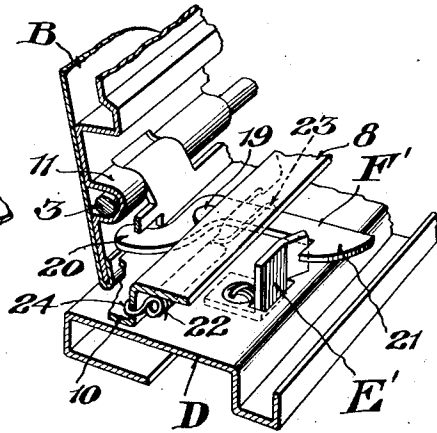
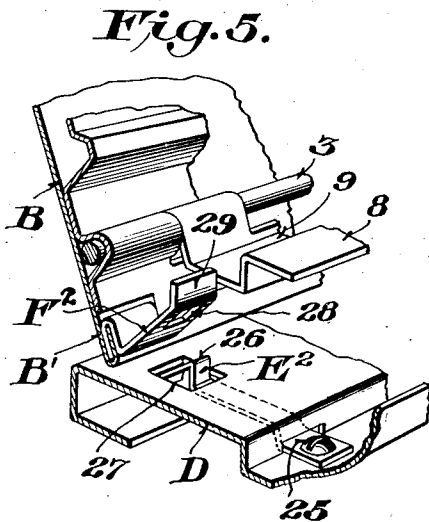
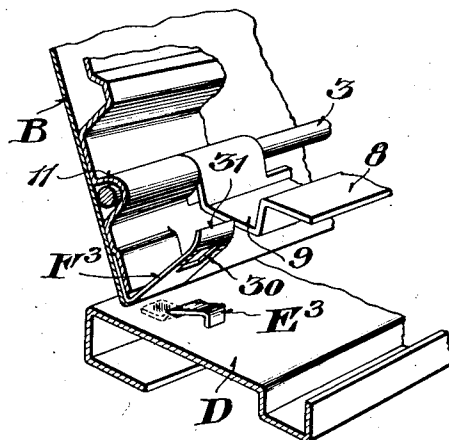


Fig. 6.



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UNITED STATES PATENT OFFICE

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AUTOMATIC LATCH FOR FILING DRAWERS

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11 Claims. (Cl. 45—94)

This invention relates to filing drawers, and more particularly to drawers having a hinged front or head that may be manually caused to drop or tilt outwardly to free the drawer contents for easy removal or replacement.

A primary object of the invention is to provide novel means for holding the drawer in the cabinet when the head or front is closed, said holding means being released when the movable or tiltable drawer front is opened or pulled outwardly. That is to say, the invention provides novel latch means which moves to a self-locking position when the drawer head is moved to a vertical position, thereby to engage a part of the cabinet, but, on the other hand, is automatically rendered inoperative, that is, moved to disengaging position, when the head is moved or tilted outwardly.

Another object of the invention is to provide simple and practical latch means which is susceptible to a wide range of modification to suit varying manufacturing conditions.

With the above and other objects in view which will more readily appear as the nature of the invention is better understood, the invention consists in the novel features of construction, combination and arrangement of parts, hereinafter more fully described, illustrated in the accompanying drawings and defined in the appended claims.

A preferred and practical embodiment of the invention is shown in the accompanying drawings, in which:—

Figure 1 is a vertical sectional view of a drawer applied to a filing cabinet structure including one form of automatic latch means constituting the present invention.

Figure 2 is a view similar to Figure 1 with the drawer head moved outwardly and the automatic latch means released.

Figure 3 is a detail perspective view of the construction shown in Figs. 1 and 2.

Figure 4 is a perspective view of a modified form of automatic latch.

Figure 5 is a perspective view of another modification.

Figure 6 is a perspective view of a still further modified form of latch or holding means.

Similar reference characters designate corresponding parts throughout the several figures of the drawings.

Referring to the drawings the drawer is designated generally as A and includes the side walls 1 and bottom wall 2, the latter having substantially in line therewith, a pivot rod or pin 3 for tiltable

mounting the drawer head or front B in such a way that the lower portion B' of the drawer 1 extends below the pivot. The said drawer head B carries therewith the rearwardly extending wing or wings provided with an ear 5 adapted to engage with an abutment 6 on the side wall 1 of the drawer to limit outwardly tilting of the drawer head, and also carries on its outer face a knob or handle H.

The drawer A including the head B is intended to be mounted in a cabinet designated generally as C and having the drawer separators or cross pieces D arranged between the drawers.

In all forms of construction the automatic latch means includes a keeper E carried by a cabinet part and a latch F carried by the drawer head and actuated or moved by the said head to control its engagement and disengagement from the keeper.

In Figures 1, 2 and 3 the keeper member E is secured to the drawer separator D by the fastening 7. However, it will be understood that the type of fastening shown is merely illustrative since the keeper E may be spot welded to the separator, if desired, or in fact, may be a part formed therefrom. As will be further observed from Figs. 1-3, the bottom 2 of the drawer carries the hinge leaf or support 8 and has a part 9 of channel formation, while the knuckle portions 10 receive the hinge pin 3 which in turn is held by the complementary knuckle portions 11 of the hinge leaf carried by the inside face of the drawer. The sides of the channel 9 are slotted as indicated at 12, thereby to receive the latch E which is of angular formation and includes the arms 13 and 14, the latter having the looped portion 15, pivotally mounted on the pintle 3 and having the arm 13 maintained in engagement with the bottom of the channel 9 by the leaf spring 16. The said spring 16 is attached to the medial portion of the latch arm 13 and has its free end engaging the underside of the drawer bottom 2 shown in Figs. 1-3. When the drawer head B is closed as shown in Fig. 1 the spring will maintain the head 17 of the latch in engagement with the keeper E and thus prevent the drawer from being pulled out of the cabinet until the parts 17 and E are disengaged. To effect the desired disengagement to release the drawer so that it can be pulled out of the cabinet, the inside face of the portion B' of the drawer head below the pivot 3 will engage the corner of the angle formed by the latch arms 13 and 14 and rock the arm 13 upwardly as shown in Figure 2, thus compressing the spring 16. If desired, the

drawer head may be provided with a rib 18 to engage the latch as shown in Figs. 1 and 2. When the parts are in this position, the latch will be released and the drawer may be withdrawn from the casing.

The movement of the drawer head B is independent of the latch, but the movement of the drawer head on its pivot is used to effect release of the latch, as will be apparent from the explanation above given. When the drawer is pulled out of the cabinet, the drawer front head B may be moved to its closed position and then the entire drawer pushed into the cabinet, so that when the drawer reaches its inward limit, the head 17 of the latch will snap over the keeper E and hold the drawer against withdrawal from the cabinet until the head B is manipulated as shown in Fig. 2.

The construction described in connection with Figs. 1, 2 and 3 relates to a latch having a horizontal axis. However, the invention may be effectively carried out in a latch having a vertical pivot as will be apparent from Fig. 4. In this form of construction the keeper E' is carried by the drawer separator D and the angular latch F' is mounted on a vertical pivot 19 carried by the bottom wall of the channel 9 of the hinge leaf 8. The tail 20 of the angular latch lever F' projects through a slot in a side wall of the channel to be engaged by the inside face of the drawer head below the pin 3 and the body of the latch projects through another slot in the opposite wall of the channel so that the head 21 thereof may engage the keeper E'. The latch F' is yieldingly held in its latched position by a coil spring 22 having one end fastened to the body of the latch as indicated at 23, and having its other end anchored to the channel 9 as shown at 24. When the drawer is fully in the cabinet, the head 21 of the latch will engage with the keeper E'. When it is desired to pull the drawer out of the cabinet the tilting front or head B is rocked on its pivot 3, whereupon the angular latch member F' will be moved due to the engagement of the tail 20 of the latch with the inside of the drawer head below the pivot. When the drawer head engages the tail piece the latch 13* will be moved against the tension of the spring 19. When the tilting front or head is moved to a vertical position, the spring 19 will pull the latch F' into position whereby its head 21 will engage with the keeper E'.

Alternate forms of construction are shown in Figures 5 and 6 wherein either the latch may be rigid and the keeper means yieldingly mounted, or vice versa.

In Figure 5 the keeper E² is in the form of a yielding spring leaf member secured as at 25 to the drawer separator D, the head 26 of the keeper member projecting through a slot 27 in the separator. In this arrangement the latch F' is made from a piece of relatively stiff material carried by the bottom edge of the lower portion B' of the tilting head or front B and has the body thereof provided with an opening 28 while the free end thereof is provided with a beveled nose 29. In the arrangement described it will be apparent that the latch F' moves at all times with the tilting head or front B. When the latter is tilted outwardly, as shown in Fig. 5, the latch is disengaged from the keeper. On the other hand, when the tilting front is moved to a vertical position, it will be apparent that the latch 13 will be moved downwardly to a horizontal position, thereby to be dis-

posed in the path of the head 26 of the spring keeper E².

In Figure 6 the keeper E³ is in the form of a rigid abutment spot-welded or otherwise secured as shown in Fig. 6. The latch F³ is preferably in the form of a spring leaf member securely fastened to the lower edge of the drawer front B. The spring latch member F³ is also provided with an opening 30 which has a beveled nose to assist in cooperating with the rigid keeper member E³. In all forms of the invention it will be apparent that there is provided latch means controlled by the tilting front or head to effect the locking or unlocking of the drawer in the cabinet. In other words, the invention provides automatic latch means for holding the drawer in closed position, the same being controlled and manipulated by the tilting front B.

Without further description it is thought that the feature and advantages of the invention will be readily apparent to those skilled in the art, and it will of course be understood that changes in the form, proportion and minor details of construction may be resorted to, without departing from the spirit of the invention and scope of the appended claims.

I claim:—

1. In a filing cabinet, the combination of a sliding drawer, a pivot carried by the drawer, a tilting front mounted on said pivot and having a portion depending below the same, keeper means on the cabinet, a yielding latch carried by the drawer and engageable with the keeper means, said latch having a portion adapted to be engaged by the part of the tilting front disposed below the pivot to actuate the same.

2. In a filing cabinet, the combination of a sliding drawer, a pivot carried by the drawer substantially in line with the bottom wall of the drawer, a tilting front mounted on said pivot and having a portion depending below the same, a keeper element on the cabinet, an angular latch member pivotally carried by the drawer and having a portion adapted to be engaged by the part of the tilting front disposed below the pivot, and a spring for urging the latch in position to engage said keeper abutment.

3. In a filing cabinet, the combination of a drawer slidable in the cabinet, a pivot pin carried by the drawer, a tilting front mounted on said pivot pin, a keeper abutment carried by the cabinet, a latch for engaging said keeper abutment pivotally mounted on said pivot pin, and a spring for urging said latch into position to engage the keeper abutment.

4. In a filing cabinet, the combination of a drawer slidable in the cabinet, a pivot pin carried by the drawer, a tilting front mounted on said pivot pin, a keeper abutment carried by the cabinet, a latch including a body of angular formation having one arm pivotally mounted on the said pivot pin and the other arm disposed at right angles thereto and adapted for engagement with said keeper abutment, a spring carried by said latch and engaging the bottom of the drawer for urging said latch toward the keeper abutment, and the corner of the angle formed in the body of the latch engageable with the portion of the tilting front disposed below the pivot pin.

5. In a filing cabinet, the combination, with a drawer slidably mounted in the cabinet, of a pivot pin carried by the drawer, a tilting member mounted on said pivot pin and having a portion disposed below said pivot pin, a keeper abutment on the cabinet, an angular latch lever pivoted to

- the drawer and having a portion at one side of its pivot adapted for engagement with the portion of the tilting member disposed below said pivot pin and having another portion adapted for engagement with said keeper abutment, and a spring engaging the portion of the latch member adapted for engagement with the keeper abutment, thereby to urge the latch toward the keeper abutment.
6. In a filing cabinet, the combination of a sliding drawer, a pivot carried by the drawer, a tilting front mounted on said pivot and having a portion depending below the same, a keeper abutment on the cabinet, a latch member carried by the part of the tilting front disposed below the pivot and adapted to engage and disengage said keeper element on movement of the tilting front.
7. In a filing cabinet, the combination with a drawer slidably mounted in the cabinet, of a pivot pin carried by the drawer, a tilting member mounted on the pivot pin and having a portion disposed below the same, a yielding keeper abutment carried by the cabinet, and a rigid latch member carried by the portion of the tilting member disposed below the pin and having means for engaging and disengaging said yielding keeper abutment.
8. In a filing cabinet, the combination of a drawer slidably mounted in the cabinet, a pivot pin carried by the drawer, a tilting member mounted on the pivot pin and having a portion

disposed below the same, a rigid keeper abutment on the cabinet, and a yielding latch member carried by the portion of the tilting member disposed below said pivot pin and having means for engaging the rigid keeper abutment.

9. A filing cabinet including a drawer slidably mounted therein and having a pivot, a tilting front mounted on the pivot and adapted to be tilted outwardly preliminary to movement of the drawer out of the cabinet, and latch means respectively on the drawer and cabinet adapted to be engaged when the tilting front is closed to lock the drawer in the cabinet and to be released when the front is tilted open prior to drawer movement.

10. A filing cabinet, including in combination, a sliding drawer having a pivot, a tilting front mounted on the pivot, latch means disposed below the pivot and controlled by the tilting front for locking the drawer in the cabinet and releasing it therefrom, said means comprising keeper means on the cabinet and a latch member carried by the drawer.

11. A filing cabinet, including in combination, a sliding drawer having a pivot, a tilting front mounted on the pivot and having a portion extending below the same, a latch member disposed below the pivot and controlled by the tilting front, and a relatively fixed keeper element carried by the cabinet for engaging with said latch member.

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