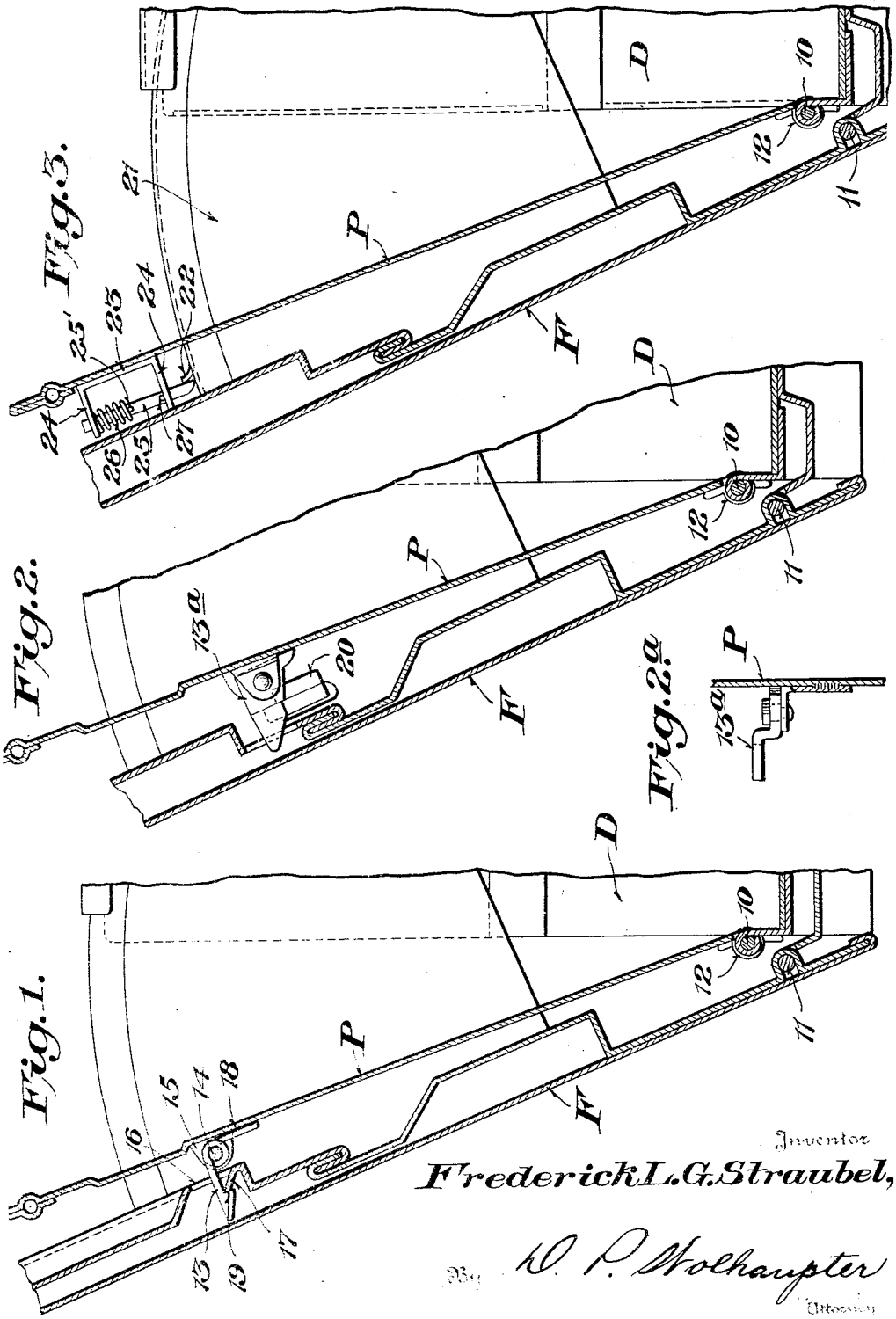
Aug. 24, 1937. F. L. G. STRAUBEL 2,090,647

FRONT LEAF CONTROL MEANS FOR TILTING FRONT DRAWERS

Filed June 10, 1936 3 Sheets-Sheet 1



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FRONT LEAF CONTROL MEANS FOR TILTING FRONT DRAWERS

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Fig. 5a.

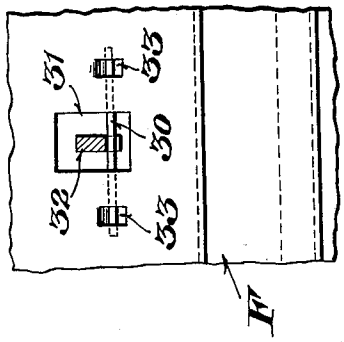


Fig. 6.

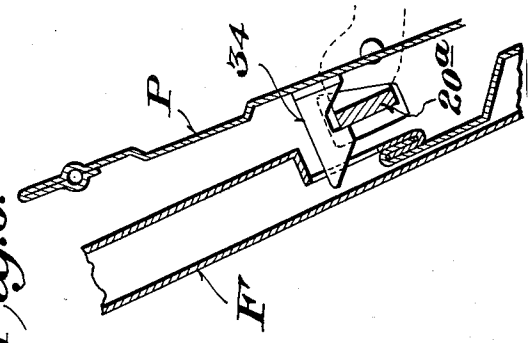


Fig. 5.

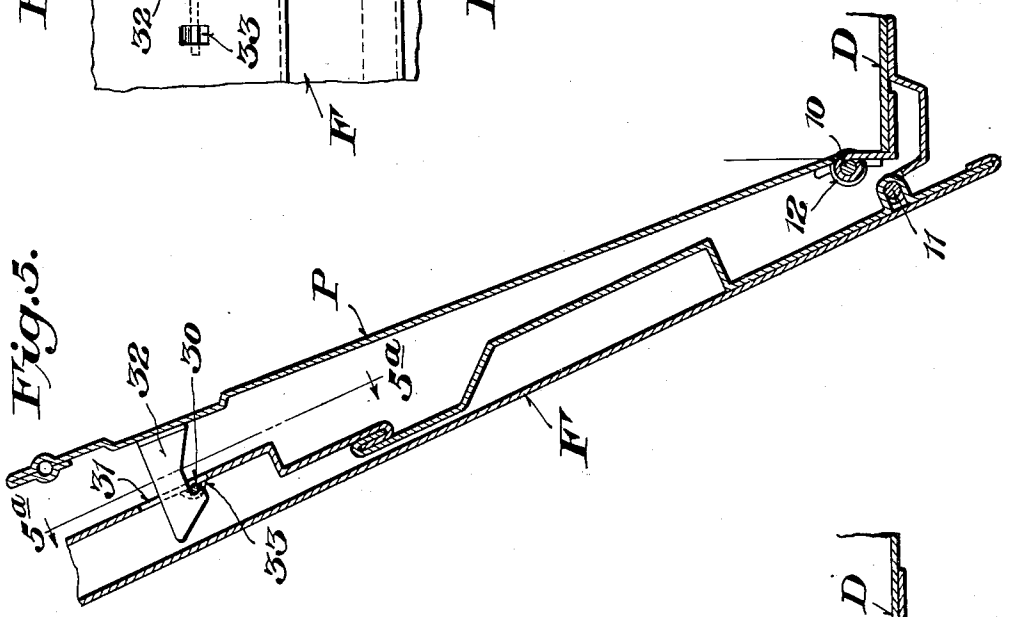
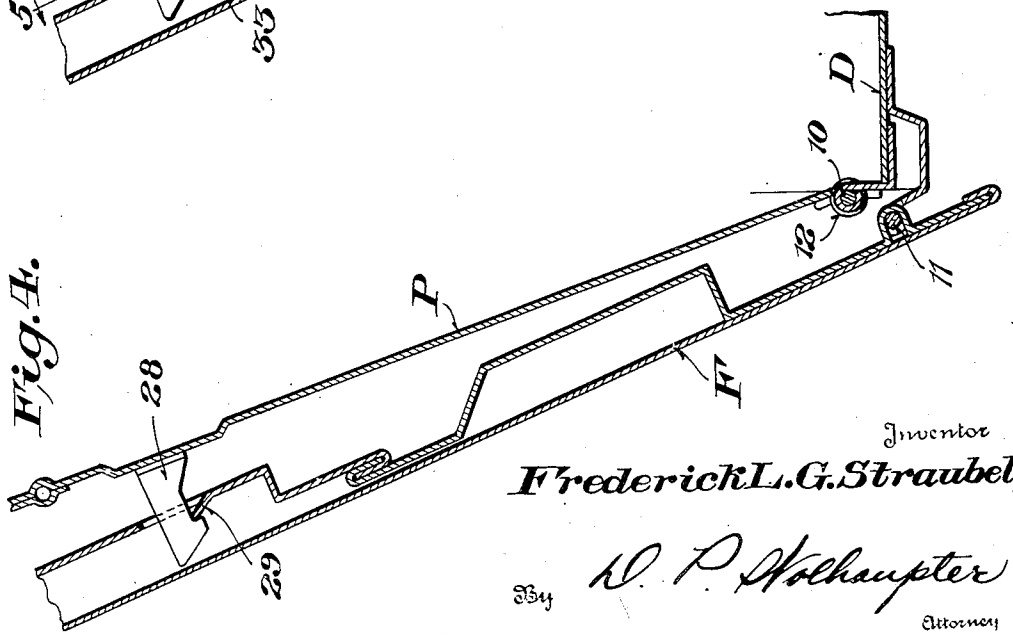


Fig. 4.



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Fig. 8a.

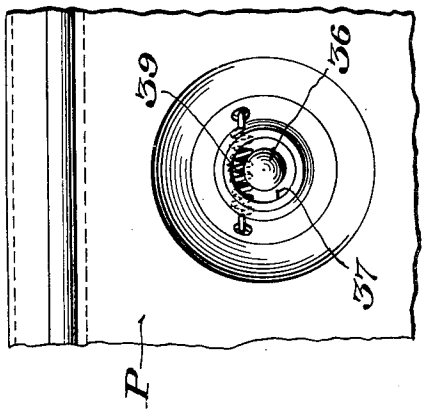


Fig. 10.

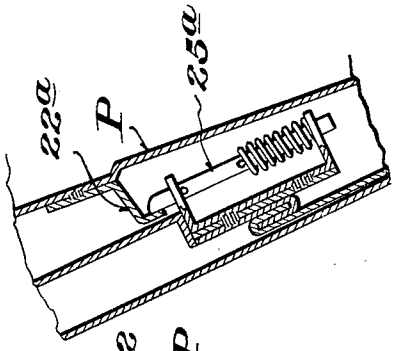


Fig. 9a.

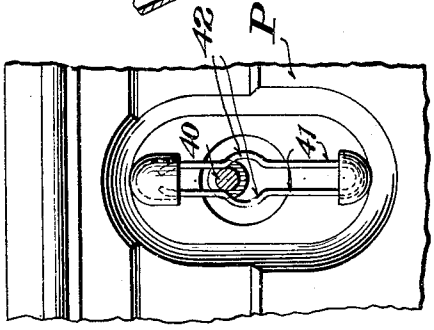


Fig. 8.

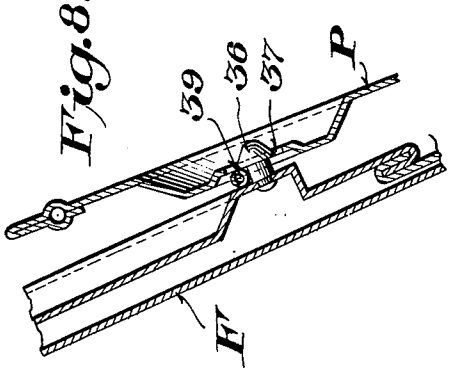


Fig. 9.

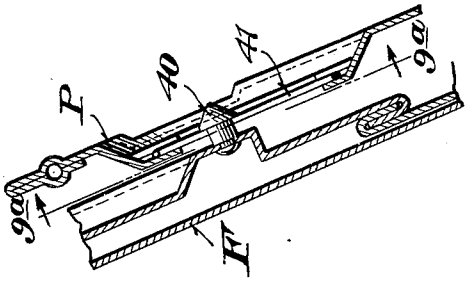
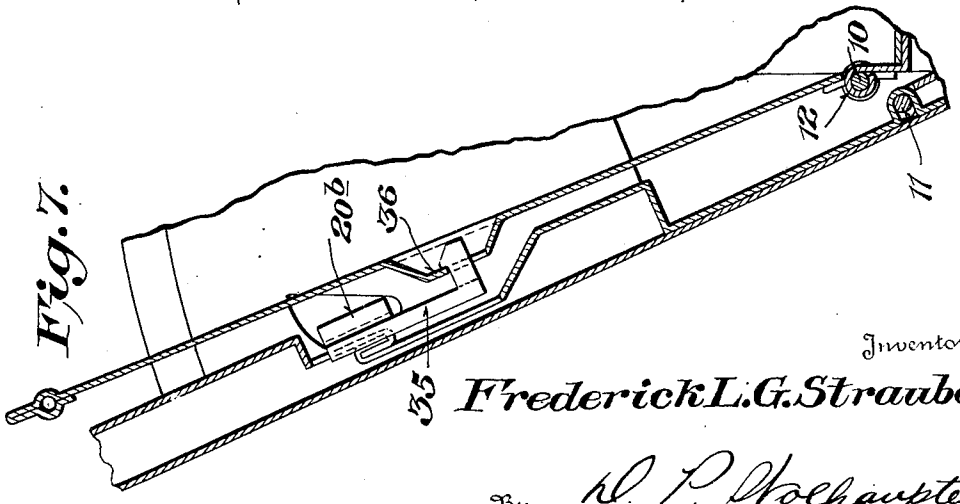


Fig. 7.



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UNITED STATES PATENT OFFICE

2,090,647

FRONT LEAF CONTROL MEANS FOR TILTING FRONT DRAWERS

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Application June 10, 1936, Serial No. 84,539

8 Claims. (Cl. 129—26)

This invention relates to filing cabinet drawers having tilting fronts and front compressor plates, and has particular reference to an improved tilting front and front compressor plate combination for such drawers.

In filing cabinet drawers having tilting fronts and front compressor plates mounted independently of the tilting fronts, the usual practice heretofore has been to provide spring means to urge the front plates inwardly against the contents of the drawers, not only when the tilting fronts are in their normal upright positions, but also when the tilting fronts are swung outwardly. Consequently, when, according to prior practice, a drawer has been opened, and whether the tilting front thereof has or has not been swung outwardly, it has been necessary to manually hold the front plate swung forwardly in order to permit free fingering or insertion or removal of the papers, files or the like comprising the drawer contents. This has proved to be disadvantageous under some conditions of use inasmuch as one hand of the person using the drawer usually has been required to hold the front plate swung forwardly and, therefore, both hands have not been free for handling the drawer contents or for other purposes.

Accordingly, the general object of the present invention is to provide, in connection with a filing cabinet drawer having a tilting front and an independently mounted front compressor or follower plate which is constantly urged inwardly, a novel latch means which is effective to retain the follower plate in a forwardly swung out of the way position in which it does not interfere with free access to the contents of the drawer when the front is tilted outwardly, and which is released by inward swinging movement of the tilting front so that whenever the latter is closed the compressor or front follower plate is urged yieldably inward against the contents of the drawer.

Another object of the invention is to provide a latch means as stated which is of simple, inexpensive construction and which may readily be applied to present commercial drawers having tilting fronts and independently mounted front follower plates.

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

In the drawings, wherein like characters of reference denote corresponding parts in the different views:—

Figure 1 is a vertical, longitudinal section through the front portion of a filing cabinet drawer having a tilting front and an independently mounted front plate, and illustrating one practical embodiment of the present follower plate latching means.

Figure 2 is a view similar to Fig. 1 illustrating another practical embodiment of the compressor plate latching means.

Figure 2ª is a detail cross section through the latch shown in Fig. 2.

Figures 3, 4 and 5 are views similar to Fig. 1 illustrating other practical embodiments of the compressor plate latching means.

Figure 5ª is a section on the line 5ª—5ª of Fig. 5.

Figures 6, 7 and 8 are views similar to Fig. 1 illustrating other practical embodiments of the compressor or follower plate latching means.

Figure 8ª is a rear elevation of the latching means shown in Fig. 8.

Figure 9 is a view similar to Fig. 1 illustrating another practical embodiment of the plate latching means.

Figure 9ª is a section on the line 9ª—9ª of Fig. 9; and

Figure 10 is a view similar to Fig. 1 illustrating another practical embodiment of the plate latching means.

According to each of the different embodiments of the invention a tilting front, designated generally as F, is pivotally mounted at, or adjacent to, its bottom on a lower portion of the drawer, designated generally as D, for swinging movement between a closed, substantially vertical position and an upwardly and outwardly inclined position, and a front follower plate, designated generally as P, is pivotally mounted at, or adjacent to, its bottom on a lower portion of the drawer, or otherwise independently of the front F, inwardly thereof, for inward and outward swinging movement independently of said front. Moreover, according to each of the different embodiments of the invention, the pivotal axis 10 of the follower plate P is disposed above and inwardly of the pivotal axis 11 of the tilting front F. Therefore, when the tilting front is open and the follower plate is in an outwardly swung position parallel, or substantially parallel, to said tilting front, inward swinging movement of both the tilting front and the follower plate results in

upward movement of any given point on the follower plate relative to the tilting front.

By any suitable spring means, comprising, for example, one or more torsion springs 12 coiled about the follower plate pivot pin and engaged at its ends or their ends, as the case may be, with the follower plate and the drawer, respectively, the follower plate is constantly urged inwardly for the purpose of engaging the front of the contents of the drawer and exerting holding pressure thereagainst.

All of the foregoing is in accordance with prior practice as illustrated, described and claimed in the patent of George C. Brainard, No. 2,055,170, dated September 22, 1936. However, according to prior practice there has been lacking any means of holding the follower plate P in an outwardly swung, out of the way position, permitting free access to the contents of the drawer, when the tilting front is open. Consequently, according to prior practice, it has been necessary to manually hold the follower plate swung forwardly whenever said plate has been found to interfere with handling of the contents of the drawer, and this has proved to be quite inconvenient inasmuch as it has not left free both hands of the person using the drawer.

Now, according to the embodiment of the present invention illustrated in Fig. 1, a gravity latch arm 13 is pivoted at 14 to a bracket 15 affixed to the follower plate P at the front thereof, and the inner wall of the tilting front is recessed as at 16 and is provided at the bottom of said recess with a tongue or keeper 17. Downward swinging movement of the latch arm is suitably limited, as by means of an extension 18 on said latch arm cooperating with the front face of the follower plate, so that normally said latch arm extends forwardly from the follower at substantially right angles thereto. At its front or free end the bottom face of the latch arm is inclined downwardly and inwardly to the bottom of a rearwardly facing shoulder 19. The recess 16 is disposed to be entered by the front or free end of the latch arm 13 when the tilting front F is open and the follower plate is swung outwardly to a position substantially parallel to said tilting front, and the tongue or keeper 17 is disposed so that when the tilting front is open and the follower plate is swung outwardly to cause the free end of the latch arm 13 to enter the recess 16, the inclined bottom end portion of the latch arm rides over said keeper and causes the latch arm to be lifted until the shoulder 19 has passed said keeper, whereupon the latch gravitates to a position in which its shoulder 19 is disposed in front of the keeper 17, thereby latching the follower plate in an out of the way, outwardly swung position.

Since downward swinging movement of the latch arm 13 is limited, and since said latch arm bodily moves upwardly relative to the tilting front F when said tilting front and the follower plate are swung inwardly from their outwardly swung positions, the result is that when the tilting front is swung inwardly and about the time the same reaches its closed, vertical position, the latch-arm 13 becomes disengaged from the keeper 17 and, as a consequence, the spring or springs 12 is or are permitted to act to swing the follower plate inwardly relative to the tilting front and against the front of the contents of the drawer.

Briefly stated, the present latch means leaves the follower plate P spring urged inwardly when the tilting front F is opened; provides for holding the follower plate in an out of the way, outwardly swung position when the tilting front is in its outwardly swung or open position, and is automatically released to permit the follower plate to be spring-pressed inwardly against the drawer contents when the tilting front is swung inwardly to a closed or substantially closed position.

According to the Brainard Patent No. 2,055,170, the tilting front has pivoted to side wings thereof latches which engage keepers on the sides of the drawer to hold the tilting front closed. In Fig. 2 of the present drawings 20 designates the forward, laterally extending portion of a tilting front latch arm as illustrated in said Brainard patent, which latch arm, to all intents and purposes so far as concerns the present invention, comprises part of said tilting front. According to Figs. 2 and 2a the invention is the same as described in connection with Fig. 1, except that the latch, designated as 13a is formed from sheet metal and cooperates with the tilting front latch arm 20 instead of with a keeper directly on the tilting front F.

According to the Fig. 3 embodiment of the invention the tilting front F is provided as usual with side wings, one of which is shown and designated as 21, and, in accordance with the present invention, said wing is provided at its top with a keeper lug or tongue 22 affixed thereto or struck upwardly therefrom. To the front of the follower plate P is fastened a bracket 23 having a pair of vertically spaced forwardly extending arms 24, and in said bracket arms is vertically slidable a latch pin 25 which is urged downwardly by a coil spring 26 interposed between the upper bracket arm and a pin or shoulder 25' on said latch pin. Downward movement of the latch pin is limited by a pin or shoulder 27 thereon engageable with the lower bracket arm. The latch pin 25 is mounted so that when the tilting front F is in its outwardly swung or open position and the follower plate is swung outwardly, the latch pin rides over the keeper lug or tongue 22 and is projected downwardly in front thereof by the spring 26, thereby holding the follower plate in its outwardly swung, out of the way position. Due to the spaced relationship of the pivotal axes 11 and 10 of the tilting front and the follower plate, respectively, the latch pin rises relative to the keeper lug or tongue when the tilting front and the follower plate are swung inwardly, and becomes fully removed from in front of the keeper lug or tongue when the tilting front reaches approximately its closed, vertical position, thereby releasing the follower plate for inward swinging movement by its spring or springs 12.

According to the Fig. 4 embodiment of the invention the construction is the same as the Fig. 1 construction with the exception that the latch arm, designated as 28, is rigid with the follower plate P and the keeper 29 on the tilting front is in the form of a resilient tongue which yields to permit the latch arm to become operatively engaged therewith when the tilting front is open and the follower plate is swung outwardly. As the tilting front and the follower plate are swung inwardly, the latch arm 28 rises relative to the keeper tongue 29 due to the spaced relationship of the pivotal axes of the tilting front and the follower plate, and the follower plate becomes automatically released from the tilting front when the latter reaches approximately its closed position.

The Figs. 5 and 5a embodiment of the invention is the same as the Fig. 4 embodiment with

the exception that the keeper, instead of being in the form of a resilient tongue, is comprised by a length of spring wire **30** which extends horizontally across an opening **31** in the inner wall of the tilting front and is fastened to said wall to either side of said opening so that its medial portion is free to yield downwardly to permit operative engagement of the latch arm **32** therewith when the tilting front is open and the follower plate is swung outwardly. The opening **31** is provided to accommodate the latch arm as will be understood, and while the keeper wire **30** may be fastened to the tilting front in any desired manner, it preferably is fastened to said tilting front by means of tongues **33** struck therefrom as shown. The operation obviously is the same as described in connection with the Fig. 4 embodiment of the invention.

According to the Fig. 6 embodiment of the invention, the construction and mode of operation is the same as in the case of the embodiment of the invention illustrated in Fig. 2, with the exception that the latch arm **34** is rigid with the follower plate as in the Figs. 4 and 5 embodiments of the invention, the pivotal mounting of the tilting front latch arm **20a** with which said latch arm **34** cooperates, permitting operative engagement of the latch arm therewith when the tilting front is open and the follower plate is swung outwardly.

Fig. 7 illustrates a reversal of the construction shown in Fig. 6. In other words, the follower-plate latch arm, designated as **35**, is carried by the tilting front latch arm **20b** and cooperates with a keeper in the form of a tongue **36** on the follower plate, the pivotal mounting of the latch arm **20b** as in the aforesaid Brainard patent and as shown in Fig. 6, permitting operative engagement of the latch arm **35** with the tongue **36** when the tilting front is open and the follower plate is swung outwardly, as in the case of the Fig. 6 embodiment of the invention.

According to the embodiment of the invention illustrated in Figs. 8 and 8a, the tilting front F carries an inwardly extending headed pin **36** which enters an opening **37** in the follower plate P when the tilting front is in its open position and the follower plate is swung outwardly, the follower plate having a keeper in the form of a coil spring **39** secured across the opening **37**. Obviously, this construction may be reversed by providing the pin **36** on the follower plate and the spring **39** on the tilting front, as in the case of the Figs. 5 and 5a embodiment of the invention.

According to the Figs. 9 and 9a embodiment of the invention the tilting front F carries a headed pin **40** as in the case of the Figs. 8 and 8a embodiment of the invention, and the keeper, carried by the follower plate, is in the form of a pair of vertically disposed spring arms **41**, **41** between which the pin **40** enters when the follower plate is swung outwardly relative to the tilting front when the latter is open. As shown in Fig. 9a, the spring arms are bowed outwardly as indicated at **42** to permit the head of the pin **40** to pass freely between them when, by closing movement of the tilting front, the pin **40** moves downwardly relative to the follower plate.

Fig. 10 illustrates a reversal of the embodiment of the invention shown in Fig. 3, in that the spring projected latch pin **25a** is carried by the tilting front F and cooperates with a keeper **22a** carried by the follower plate P.

Obviously, according to each of the different embodiments of the invention, there may be only a single latch element and keeper or any desired plurality of latch elements and keepers.

Without further description it is thought that the features 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. A drawer having a tilting front swingable between a closed substantially vertical position and an open upwardly and outwardly inclined position, a follower plate mounted independently of said tilting front inwardly thereof for inward and outward swinging movement, spring means tending constantly to swing said follower plate inwardly, and latch means between the follower plate and the tilting front effective to hold the follower plate in an out of the way forwardly swung position when the tilting front is open and releasable by inward swinging movement of the tilting front.

2. A drawer having a tilting front swingable between a closed substantially vertical position and an open upwardly and outwardly inclined position, a follower plate mounted independently of said tilting front inwardly thereof for inward and outward swinging movement, spring means tending constantly to swing said follower plate inwardly, and latch means effective to hold the follower plate in an out of the way forwardly swung position when the tilting front is open and releasable by inward swinging movement of the tilting front.

3. A drawer having a tilting front swingable between a closed substantially vertical position and an open upwardly and outwardly inclined position, a follower plate mounted independently of said tilting front inwardly thereof for inward and outward swinging movement, spring means tending constantly to swing said follower plate inwardly, and latch means rendered effective by outward swinging movement of the follower plate to a predetermined position relative to the tilting front when the latter is open to secure the follower plate against inward swinging movement and released by inward swinging movement of the tilting front.

4. A drawer having a tilting front pivotally mounted adjacent to its bottom to a lower portion of the drawer for swinging movement between a closed substantially vertical position and an open upwardly and outwardly inclined position, a follower plate pivotally mounted adjacent to its bottom to a lower portion of the drawer at a point above and inwardly of the pivotal mounting of the tilting front, spring means tending constantly to swing the follower plate inwardly, and a latch and a cooperating keeper, one on the tilting front and the other on the follower plate, engageable by outward swinging movement of the follower plate relative to the tilting front when the latter is open to secure the follower plate against inward swinging movement and releasable to permit the follower plate to be swung inwardly by its spring means by inward swinging movement of the tilting front and the follower plate.

5. A drawer as set forth in claim 4 in which the latch is pivoted.

6. A drawer as set forth in claim 4 in which the latch is rigid with the part by which it is

carried and in which the keeper is yieldable to permit operative engagement of said latch therewith when the tilting front is open and the follower plate is swung outwardly.

7. A drawer as set forth in claim 4 in which the latch is in the form of a spring pressed pin slidably mounted for longitudinal movement.

8. A drawer as set forth in claim 4 in which the latch is rigid and the keeper comprises a wire having a resilient medial portion engageable by said latch.

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