Aug. 24, 1937. F. L. G. STRAUBEL 2,090,648

FRONT LEAF CONTROL MEANS FOR TILTING FRONT DRAWERS

Filed June 19, 1936 2 Sheets-Sheet 1

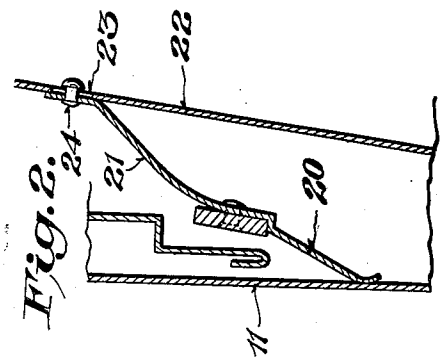


Fig. 2.

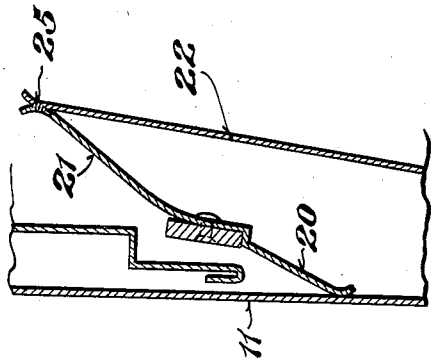


Fig. 3.

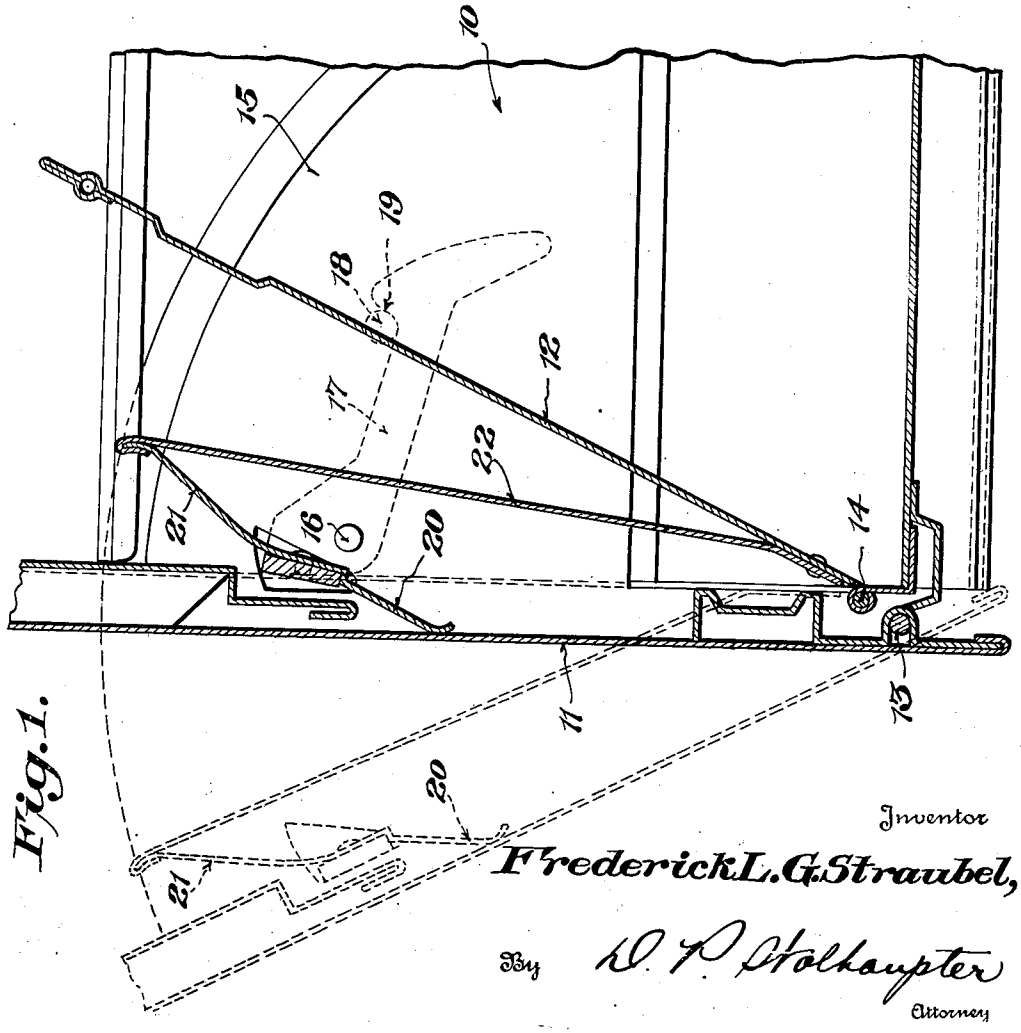


Fig. 1.

Inventor

Frederick L. G. Straubel,

By O. P. Holdaupter

Attorney

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FRONT LEAF CONTROL MEANS FOR TILTING FRONT DRAWERS

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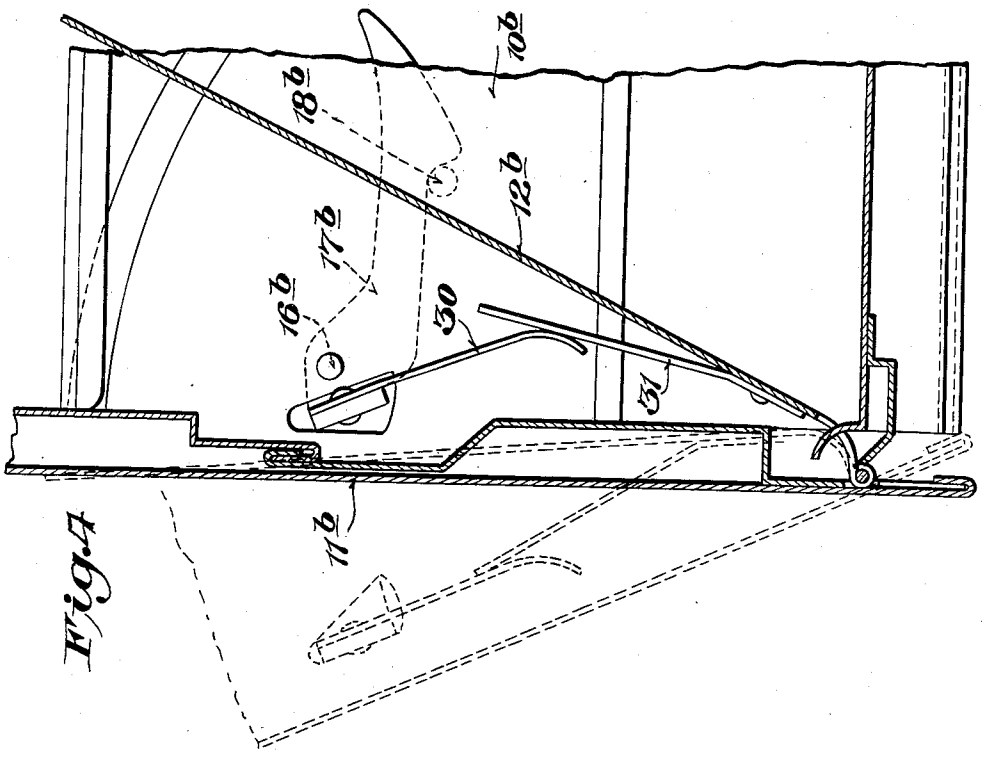


Fig. 4

Frederick L. G. Straubel,

By O. P. Hockaupter

Attorney

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2,090,648

FRONT LEAF CONTROL MEANS FOR TILTING FRONT DRAWERS

Frederick L. G. Straubel, Green Bay, Wis., assignor of one-eighth to O. C. Straubel, Green Bay, Wis., and two-eighths to C. W. Straubel, Youngstown, Ohio

Application June 19, 1936, Serial No. 86,196

7 Claims. (Cl. 129—26)

This invention relates to filing cabinet drawers having tilting fronts and front follower 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 or presser 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. In some cases this has proved to be disadvantageous 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, one important object of the present invention is to provide a tilting front and an independently mounted front compressor plate combination for filing cabinet drawers according to which the plate is yieldably urged inwardly against the contents of the drawer when the tilting front is in its normal upright or vertical position, and its pressure against the contents of the drawer is automatically relieved or relaxed when the tilting front is swung outwardly.

Another important object of the invention is to provide a tilting front and an independently mounted front compressor plate combination for filing cabinet drawers according to which the said plate is yieldably urged inwardly against the contents of the drawer when the tilting front is in its normal upright position and is swung outwardly with the plate to afford unhampered access to the contents of the drawer when the tilting front is swung outwardly.

Another important object of the invention is to provide a tilting front and front compressor plate combination as set forth which is quite simple and inexpensive.

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 combination and arrangement of features 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 longitudinal section through the front portion of a filing cabinet drawer equipped with a tilting front and a front compressor plate in accordance with one practical embodiment of the invention, the tilting front and the plate being shown in their normal positions by full lines and in their outwardly swung positions by dotted lines.

Figure 2 is a fragmentary vertical section showing an alternative form of connection included in the spring means for urging the front compressor plate inwardly.

Figure 3 is a view similar to Fig. 2 showing another alternative form of connection included in the spring means for urging the front compressor plate inwardly.

Figure 4 is another view similar to Fig. 1 illustrating another alternative embodiment of the invention.

Referring to the drawings in detail, first with particular reference to the embodiment of the invention illustrated in Fig. 1, it will be observed that the drawer, considered generally, is of the type illustrated in the patent to George C. Brainard, No. 2,055,170, dated September 22, 1936, and comprises a drawer body, designated as 10, a tilting front, designated as 11, and a front compressor plate, designated as 12.

In accordance with known practice and as illustrated in said Brainard patent, the tilting front 11 is hinged at or near its bottom to the drawer 10, as indicated at 13, for swinging movement between an upright or vertical position closing the front of the drawer, as illustrated by full lines, and an outwardly and upwardly inclined position, as illustrated by dotted lines, in which latter position it is held in any suitable manner, as, for example, by means of a suitable stop thereon engaging an abutment on the drawer. Also, in accordance with known practice, the front plate 12 is hinged at or near its bottom to the drawer, as indicated at 14, for inward and outward swinging movement relative to both the drawer and the tilting front 11.

In accordance with the disclosure of the aforementioned Brainard patent, the tilting front 11 is provided at each side thereof with a wing 15 which extends into the drawer and has pivoted thereto,

as indicated at 16, a keeper 17 for cooperation with a lug 18 on the side of the drawer to releasably hold the tilting front in its normal upright position. That is to say, inwardly of its pivot 16 the keeper 17 is provided at its top with an outwardly facing shoulder 19, and outwardly of its pivot 16 said keeper is provided with a leaf spring 20 which extends downwardly into engagement with the inner face of the tilting front 11 and reacts therefrom to swing the keeper upwardly so that its shoulder 19 is maintained inwardly of or behind and in engagement with the lug 18 when the tilting front is in its upright position. However, the shoulder 19 is inclined upwardly and inwardly. Therefore, when sufficient outward pressure is exerted on the tilting front 11, the wedging engagement of the shoulder 19 with the lug 18 results in the keeper being swung downwardly, thereby permitting the tilting front to swing outwardly relative to the drawer.

Outwardly of its pivot 16 the keeper 17 carries a second leaf spring 21 which extends upwardly and inwardly from said keeper and which may be comprised either as a part of the spring 20 or as an element separate therefrom. In either case, should the drawer 10 contain sufficient files, papers or the like to press the front plate 12 forwardly against the spring 21, the result will be to intensify the upward pressure of the keeper 17 against the lug 18 when the tilting front is closed.

Now, according to the Fig. 1 embodiment of the invention, the front plate 12 has attached thereto near its bottom the lower end of a leaf spring 22 which extends upwardly and forwardly relative to said front plate and at its upper end is connected to the upper end of the leaf spring 21. Thus, said leaf springs 21 and 22 in conjunction with each other yieldably urge the plate 12 rearwardly against the front of the contents of the drawer 10 when the tilting front 11 is in its closed position. On the other hand, when the tilting front is swung outwardly, the connection comprising the leaf springs 21 and 22 between the tilting front and the presser plate results in the said plate being swung outwardly with said tilting front. The normal angular relationship between the plate and the tilting front corresponds substantially to the angular relationship between the tilting front and the front of the drawer when the tilting front is in its outwardly swung position. Therefore, when the tilting front is in its outwardly swung position, the plate 12 is disposed substantially vertically at the front of the drawer, in which position it does not interfere with free fingering, insertion or removal of the files, papers or the like comprising the drawer contents.

Obviously, instead of the leaf spring 22 being carried by a keeper or latch, it may be carried directly by the tilting front. In this connection, the structure illustrated in Fig. 1 obviously is an adaptation of the present invention to a known commercial type of tilting front drawer equipped with keepers 17 and springs 21 as described and claimed in the aforesaid Brainard patent, and is designed to utilize the spring 21 as part of the spring means between the tilting front and the plate normally to urge the latter inwardly. It will thus be apparent that, in connection with tilting front drawers having front compressor plates, but not having cams such as the present keepers 17, it is within the purview of the invention to provide any sort of spring means between the compressor plate and the tilting front such that the said plate is urged inwardly when the tilting front is closed and the plate either is moved outwardly positively with the tilting front when the latter is swung outwardly, or may be swung outwardly after the tilting front is swung outwardly and will remain in its outwardly swung position either until it is manually swung inwardly or the tilting front is swung inwardly.

Due to the vertically and laterally spaced relationship of the pivotal axes of the tilting front and the presser plate, and due, also, to the normal angular relationship between the leaf spring 22 and the plate, the leaf spring 22 obviously will move upwardly relative to the leaf spring 21 when the said plate is pressed toward the tilting front and the leaf spring 22 is pressed toward the follower plate. Preferably, therefore, a sliding connection is provided between the upper ends of the leaf springs 21 and 22. In Fig. 1 this connection is illustrated as being formed by bending the upper end of the leaf spring 22 upon itself and by inserting the upper end of the leaf spring 21 within the slot thus provided. Alternatively, Fig. 2 illustrates that one of the leaf springs, the spring 22 in the present instance, may be slotted, as indicated at 23, and that the other leaf spring, the spring 21 in the present instance, may be provided with a pin 24 slidable in said slot and provided with a head securing the springs together. On the other hand, Fig. 3 illustrates that a sliding connection between the upper ends of the leaf springs 21 and 22 is not essential and that said springs may be rigidly fastened together at their upper ends as, for example, by welding, as indicated at 25. When the upper ends of said springs are rigidly connected together the tendency of the spring 22 to move upwardly relative to the spring 21 when the compressor plate is pressed forwardly relative to the tilting front, results in bowing of the leaf spring 22 whereby such movement of the said plate is permitted.

According to the Fig. 4 embodiment of the invention the keeper or latch 17^b is provided, forwardly of its pivot 16^b, with a leaf spring 30 which extends downwardly and inwardly from said keeper and which, at its lower end, is free. The plate 12^b is pivoted, preferably but not necessarily, coaxially with the tilting front 11^b and at its front, near its bottom, has fastened thereto the lower end of a leaf spring 31 which extends upwardly and outwardly relative to said plate and at its upper end bears outwardly against the free end of the leaf spring 30. Obviously, when the tilting front is closed and outward pressure is exerted against the plate, the latching engagement of the keeper or latch 17^b with the lug 18^b is intensified. On the other hand, when the tilting front is swung outwardly, the plate 12^b obviously is free to be swung outwardly slightly beyond a vertical position to relaxed position in which position the plate can be swung farther outwardly with very little effort against the open tilted front for complete expansion and freer access to the drawer.

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 front pivoted 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 compressor plate inwardly of said front pivoted adjacent to its bottom for inward and outward swinging movements, and spring means between said plate and said front yieldably resisting outward swinging movement of said plate relative to said front, said spring means connecting said plate to said front so that when the front is swung outwardly the plate is swung outwardly therewith to a position in which it does not interfere with free access to the contents of the drawer.

2. A drawer having a front pivoted 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 compressor plate inwardly of said front pivoted adjacent to its bottom for inward and outward swinging movements, a latch and stud means to resist outward swinging movement of the front from its closed position, a spring carried by said cam to be energized by outward swinging movement of the plate relative to the front to intensify the gripping action of said cam and stud means, and connections between said spring and said plate and between said spring and said front whereby the plate constantly is restrained against outward swinging movement relative to the front and is swingable outwardly with said front.

3. A drawer having a front pivoted 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 compressor plate inwardly of said front pivoted adjacent to its bottom for inward and outward swinging movements, latch and stud means to resist outward swinging movement of the front from its closed position, a spring carried by said latch to be energized by outward swinging movement of the plate relative to the front to intensify the gripping action of said latch and stud means, and a spring carried by said plate and engaging said latch spring whereby outward movement of the plate relative to the front energizes said latch spring and whereby said springs cooperate to urge the plate constantly inward when the front is closed, the plate being unrestrained against outward swinging movement to a substantially vertical position not interfering with free access to the contents of the drawer when the front is swung open.

4. A drawer as set forth in claim 3 including a positive sliding connection between the cam spring and the spring carried by the compressor plate.

5. A drawer having a front pivoted 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 plate inwardly of said front pivoted adjacent to its bottom for inward and outward swinging movements, a latch and stud means to resist outward swinging movement of the front from its closed position, a leaf spring carried by said latch to be energized by outward swinging movement of the plate relative to the front to intensify the gripping action of the latch and stud means, and a leaf spring fastened at its lower end to a bottom portion of said plate and extending upwardly and outwardly relative to said plate and engaged with the spring carried by said latch, whereby the latter spring is energized by outward swinging movement of the plate and the plate is constantly urged inwardly when the front is closed, said springs permitting unrestrained outward swinging movement of the plate to a substantially vertical position when the front is opened.

6. A drawer having a front pivoted 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 compressor plate inwardly of said front pivoted adjacent to its bottom for inward and outward swinging movements, a stud on the drawer, a latch on the front for cooperation with said stud to hold the front closed, a spring carried by said latch to be energized by outward swinging movement of the plate relative to the front to intensify the latching cooperation between the latch and said stud when the front is closed, and a spring carried by said compressor plate and engaging said latch spring, whereby outward swinging movement of the plate relative to the front energizes said latch spring and whereby said springs cooperate to urge the compressor plate inwardly when the front is closed.

7. The combination as set forth in claim 6 in which the springs are connected together so that when the front is opened the compressor plate is swung outwardly.

FREDERICK L. G. STRAUBEL.