Sept. 21, 1954 C. F. WOLTERS 2,689,775

FILE CABINET WITH TILTING DRAWER FRONT

Filed March 17, 1951 2 Sheets-Sheet 1

FIG. 1

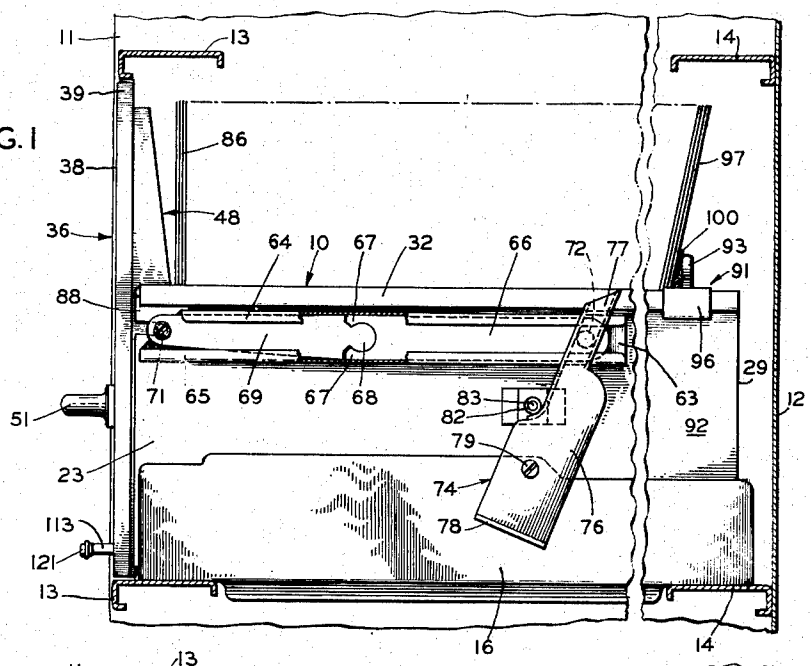
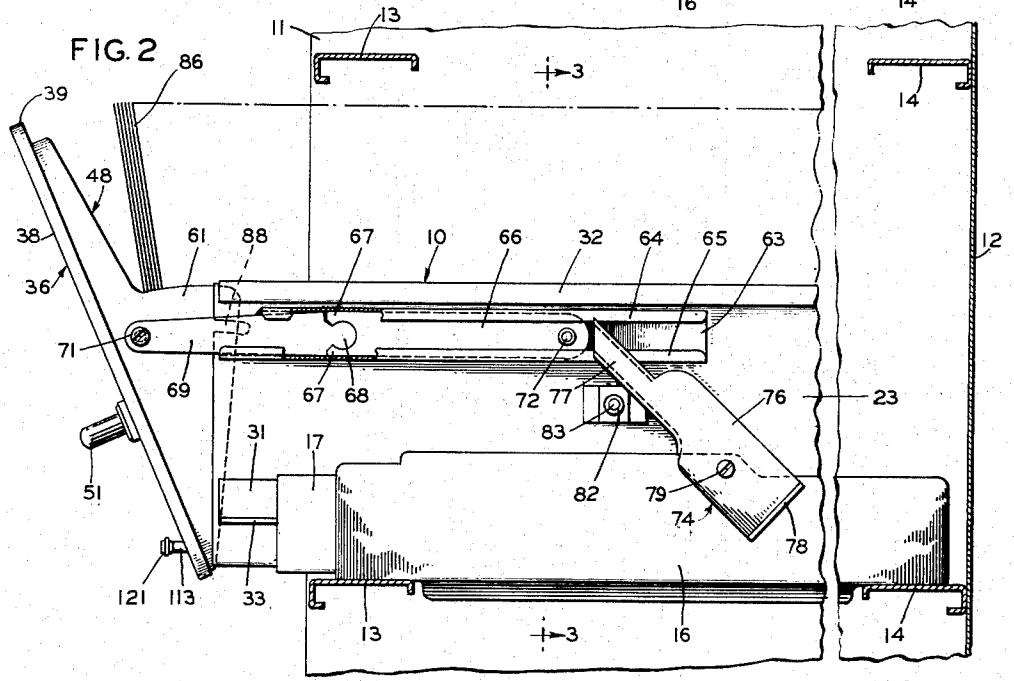


FIG. 2



Inventor
CARL F. WOLTERS

By

Attorney

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FIG. 3

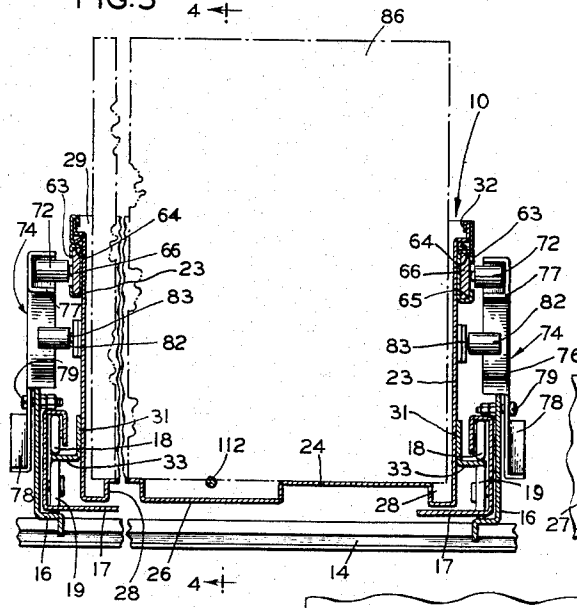


FIG. 7

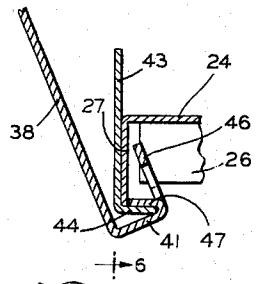


FIG. 6

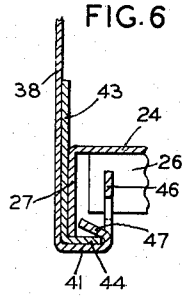


FIG. 5

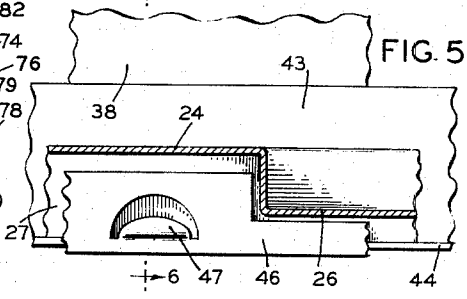
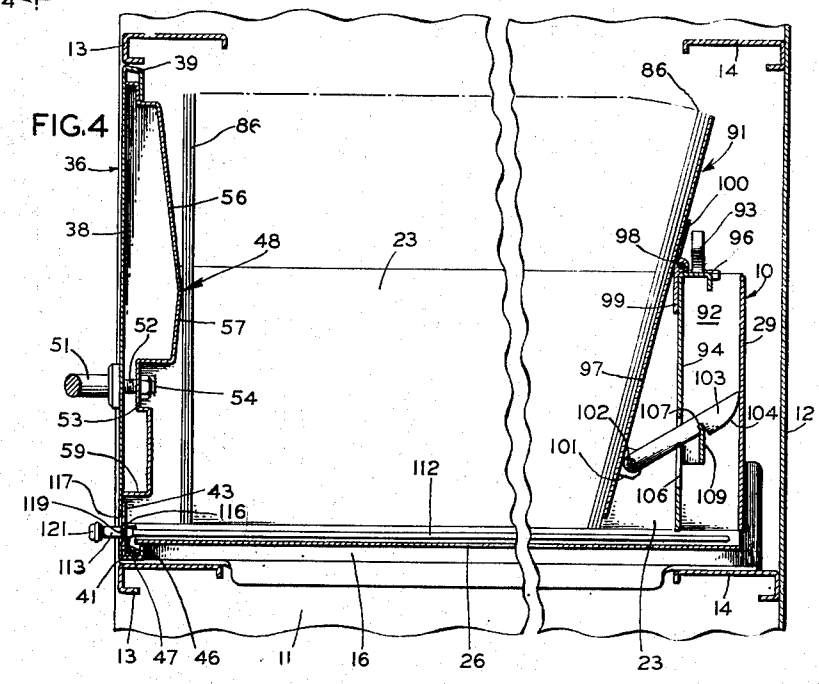


FIG. 4



Inventor
CARL F. WOLTERS

By

Attorney

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FILE CABINET WITH TILTING DRAWER FRONT

Carl F. Wolters, New Canaan, Conn., assignor to Remington Rand Inc., New York, N. Y.

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8 Claims. (Cl. 312—274)

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This invention relates to file cabinets and is particularly concerned with file cabinets provided with file drawers having tilting fronts.

The invention comprehends the provision in a file cabinet of one or more file drawers which may be constructed with tilting fronts of simplified design.

The invention provides simple and effective mechanism for moving the tilting front of a file drawer from tilted position to upright position as the drawer is moved inwardly into housed position in the cabinet and provides for the tilting drawer front to be inclined forwardly, if desired, as the file drawer is opened.

The invention also provides a file cabinet which may be equipped with a tilting drawer front closing mechanism for use with file drawers having tilting drawer fronts and suitable parts for cooperation with closing mechanism, but which may also be used without modification for ordinary file drawers.

The invention comprehends the provision of a file drawer having a tilting drawer front rendering access to the file contents more convenient; means associated with the drawer front closing mechanism to limit the outward tilting movement of the drawer front; and follower mechanism adapted to add to the convenience of filing.

On the drawings:

Fig. 1 is a fragmentary longitudinal sectional view through a file cabinet showing a file drawer in which the features of the present invention are embodied;

Fig. 2 is a fragmentary longitudinal sectional view, similar to Fig. 1, in which the file drawer is shown in partially open position with the front of the file drawer tilted outwardly;

Fig. 3 is a fragmentary transverse cross section taken on line 3—3 of Fig. 2;

Fig. 4 is a longitudinal cross section taken on line 4—4 of Fig. 3 showing more clearly the construction of the tilting drawer front and the tilting file follower;

Fig. 5 is an enlarged fragmentary view showing details of the hinge mechanism for the tilting drawer front looking at the back of the drawer front;

Fig. 6 is a cross section taken on line 6—6 of Fig. 5;

Fig. 7 is a cross section similar to Fig. 6, showing the parts in the position they occupy when the drawer front is tilted outwardly.

The invention is shown embodied in a file drawer indicated generally by the reference numeral 10, which is mounted in a file casing having

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sides 11, back 12, front cross members 13, and rear cross members 14. The casing is provided, adjacent each of its sides 11, with a case slide 16, each of which extends longitudinally of the cabinet and is rigidly secured by suitable means to the front and rear cross members 13 and 14. Extension slides 17 are movably mounted one in each case slide. Each extension slide has spaced upper and lower rollers 18 and 19.

The body of the file drawer 10 is preferably formed of sheet metal to provide spaced, parallel, upright sides 23 which are preferably integral with a bottom portion 24. The drawer bottom 24 is provided with a centrally disposed, longitudinally extending depressed channel 26. On each side of the depressed channel 26, at the front of the bottom 24, there is formed a depending flange 27. Additional rigidity may be given the drawer bottom 24 by forming therein a pair of longitudinal side channels 28.

The drawer body further comprises a back 29 also preferably formed of sheet metal attached by suitable means such as welding, to sides 23. Each of the sides 23 is provided on its exterior, adjacent the bottom with a drawer slide 31 and at its top is provided with a longitudinal reinforcing rail 32. Drawer slides 31 are preferably formed as angle bars, each having one flange thereof secured to one of the drawer sides 23 by suitable means such as welding, and having its other flange 33 extending outwardly from drawer 10. The flanges 33 of drawer slides 31 are received between upper and lower rollers 18 and 19, respectively, carried by extension slides 17 and are longitudinally movable therein, thus supporting the drawer and permitting its movement into and out of the casing.

The file drawer 10 is also provided with a front, designated generally by numeral 36, that comprises an outer panel 38 the top of which is bent rearwardly and downwardly to form a transverse channel 39. The bottom of front panel 38 is bent rearwardly and upwardly to form a transverse channel 41. The drawer front 36 is hinged at its bottom on a front member 43 that is secured to depending flanges 27 of bottom 24 at the forward end of the drawer 21 and projects downwardly into transverse channel 41 of front 36. Front bottom member 43 is provided at its lower edge with a rearwardly extending flange 44 and the reverse flange 46 of lower transverse channel 41 of panel 38 is provided with integral tongues 47, best shown in Figs. 6 and 7, bent forwardly over rearwardly projection flange 44 and pivotally supporting drawer front 36 thereon.

The drawer front 36 is also provided with an inner head or panel 48. The inner head 48, except at its periphery, is spaced rearwardly from front panel 38 and at its upper end is secured in transverse channel 39. A drawer pull 51 is provided on the outside of panel 38 and is mounted thereon by threaded studs 52 which extend into the drawer and through a transverse channel 53 in the inner head 48 in which they are secured by nuts 54. Above the channel 53, the inner drawer head 48 is provided with converging upper and lower transverse faces 56 and 57, respectively, which slope rearwardly from the outer panel 38. A forwardly extending flange 59 provided on the inner head 48 at the bottom thereof engages the outer drawer panel 38 above front bottom member 43. There is also provided on each side of the drawer front 36 a rearwardly extending wing 61 which may be formed integrally with outer panel 38. If desired, however, the wings may be formed on inner head 48 or may be separate and attached to the drawer front by suitable means.

The file drawer 10 is provided along the exterior of each side 23 thereof with a longitudinally extending channel guide 63, the edges of which are bent over to provide top and bottom grooves 64 and 65, respectively. Arranged within each of the guides 63 for slidable movement therein is a slide arm 66. The forward end of each of the slide arms 66 is provided with a pair of spaced longitudinally extending fingers 67 adapted to grasp a rounded tenon 68 formed on the end of a slide lever 69. Each of the slide levers 69 is also slidably held in one of the longitudinal channel guides 63 and is tapered toward its forward end where it is attached by a screw or bolt 71 to the drawer front 36. The pivotal movement provided for by the knuckle joints formed by the fingers 67 and tenons 68 and the tapering of the slide levers 69 permit outward tilting movement of the front 36. Adjacent its rear end each of the slide arms 66 is provided with an outwardly extending roller stud 72.

A slide cam 74 is pivotally mounted within the file casing adjacent each side of the drawer 10. The cams 74 may conveniently be stamped from sheet metal and each comprises a body portion 76, a slide cam channel 77 projecting from one end of said body portion and an outwardly extending leg 78 at the other end of said body portion. In the embodiment illustrated, bolts 79 are used to mount the slide cams 74 on the outer sides of the case slides 16 with the open sides of the slide cam channels 77 facing the drawer 10. A roller 82 is provided on the outer face of each of the drawer sides 23 below the channel guides 63 and forwardly of the rear end thereof. Each of the rollers 82 is carried on a roller stud 83 which projects outwardly from the sides 23 of the file drawer 10 and is adapted to operatively engage the outer surface of the cam channel 77 of one of the cams 74.

The drawer front 36 of the file drawer 10 which, as previously described, is arranged to pivot or tilt outwardly as a result of the hinge arrangement provided at its lower end by the tongues 47, is drawn into vertical position as the drawer is closed by cooperation of the roller studs 83 mounted on the sides 23 of the drawer 10 and the roller studs 72 mounted on the slide arms 66 with the pivotally mounted slide cams 74.

The operation is as follows: With the file drawer 10 pulled out of the cabinet and with the drawer front 36 tilted outwardly, all as shown in Fig. 2, rearward movement of the drawer 10 will cause the roller studs 72 to enter the open ends of the slide cam channels 77. With continued movement of the drawer the outer faces of the cam channels 77 will then be engaged by the roller studs 83 and the slide cams 74 will be caused to pivot around the bolts 79 thus moving the roller studs 72, the slide arms 66, the slide levers 69 and the drawer front 36 rearwardly with respect to the drawer. Since the roller studs 83 are nearer the pivot points of the respective slide cams 74 with which they cooperate than the roller studs 72, the studs 72 will be moved faster than the studs 83 move with respect to the cabinet and accordingly the tilting drawer front 36 will be pulled into upright position by the slide arms 66 and slide levers 69 before or at the same time that the drawer reaches the position within the cabinet which it occupies when closed.

When the drawer 10 is pulled open by the drawer pull 51 the action of the slide cams and roller studs is reversed and the drawer front 36 reaches full titlted position when the drawer is only partially opened, as shown in Fig. 2. As best illustrated in Fig. 3, the lower ends of the slide cam channels 77 engage the tops of the case slides 16 to hold the slide cams 74 in the position shown in Fig. 2 so that the roller studs 72 may enter the slide cam channels 77. If desired, the legs 78 on the slide cams 74 may engage stops (not shown) to restrain rearward movement of the cams 74.

The sloping face 56 of the inner head 48 of the drawer front 36 serves, as shown in Fig. 2, to provide clearance between the top of the drawer front and the filed material 86 such as folders, papers and the like contained in drawer 10 when the front is tilted outwardly. Tilting movement of drawer front 36 is arrested by engagement of the slide levers 69 with the flanges on the bottom edges of guides 63 forming grooves 65. When the drawer front occupies an upright position (Fig. 1) each of the screws or bolts 71 is received in a slot 88 provided in the forward end of each of the drawer sides 23 and the wedge formed by the converging faces 56 and 57 of the inner head 48 compresses the filed material 86 in the drawer 10.

The file drawer 10 is also provided with a follower, designated generally by numeral 91, to maintain the filed material 86 in upright position. The follower 91 comprises a body 92 which includes a depending, transverse plate 94 extending downwardly between the sides 23 of drawer 10 and a pair of spaced, channelled slides 96 adapted to ride on the guide rails 32 provided along the tops of sides 23 as the follower is moved longitudinally of the drawer by the grip or handle 93 thereon. A pivoted plate 97 substantially the same height as the folders and the like used in the file drawer is pivotally attached to the front of the follower body 92 by means of a pivot pin 98 engaging hinge plates 99 and 100 attached, respectively, to the body 92 and the plate 97. The pivoted plate 97 is formed, adjacent its lower end, with a rearwardly extending ear 101 to which there is pivotally attached by a pin or rivet 102 a latch 103.

The free end of latch 103 extends through slot 106 provided in depending plate 94 and a notch 107 in the latch engages a tongue 109 which, as shown in Fig. 4, projects from the rear of the plate 94. When the follower 91 is spaced from the back 29 of the drawer 10 the notch 107 of the latch 103 receives tongue 109 and holds the pivoted plate 97 tilted forwardly at the bottom and rearwardly at the top, thus making inspection of the filed material easier and permit-

ting such material to be grasped and withdrawn from the file conveniently. When, however, the follower 91 is moved rearwardly in the drawer 10 to permit full utilization of the filing space in the drawer, the rounded end 104 of the latch 103 engages the back 29 of the drawer and slides upwardly thereon thus disengaging the notch 107 from the tongue 109. The plate 97 is thereby allowed to pivot into vertical position to provide the maximum amount of filing space in the drawer 10.

An index rod 112 is provided in the file drawer 10, the rod extending longitudinally within the central channel 26 at the bottom of the drawer and being adapted to pass through perforations or eyelets in index cards to prevent removal of the cards from the file. At its outer end the rod 112 is provided with an enlarged portion 113 which extends through a vertical slot 116 in front bottom member 43 and another, longer, vertical slot 117 in the outer panel 38 of drawer front 36. An annular groove 119 in the enlarged portion 113 of the rod engages in the slot 116 to hold the rod in place, the greater length of the slot 117 in the panel 38 permitting pivoting of the drawer front 36 without interfering with the rod. The index rod 112 may be withdrawn from the file drawer 10 by grasping the knob 121 on the outer end of the rod and disengaging the annular groove 119 from slot 116.

From the foregoing description of the construction and operation of the improved file drawer of the present invention, it will be seen that the drawer embodies a tilting drawer front which is comprised of a very few parts, is easily manufactured and assembled and which has an inner head of such configuration as to compress the file contents when in upright position and to allow increased ease of access when tilted. The mechanism for returning the drawer front to vertical position as the file drawer is closed is simple and positive in operation and the modification of the file cabinet required therefor is such that file drawers having non-tilting fronts may be used therein without difficulty. It will also be evident that the following provides the convenience of a tilted back rest in the file drawer until the filing capacity of the drawer is approached.

The invention claimed is:

1. A filing cabinet comprising a casing, a drawer mounted for movement into and out of said casing, said drawer having a hinged front movable between upright and tilted positions, a movable cam carried by said casing, means carried by said drawer for operating said cam as said drawer approaches the limit of its movement into said casing, and actuating means carried by said drawer and connected to said hinged front, said actuating means having a portion movable by said cam to move said front from tilted position to upright position.

2. A filing cabinet comprising a casing, a drawer mounted for movement into and out of said casing and having a front, said front being hingedly mounted on said drawer and movable between upright and tilted positions, a pivoted cam carried by said casing, cam operating means carried by said drawer for causing pivotal movement of said cam as said drawer approaches the limit of its movement into said casing, and actuating means including members carried by and movable longitudinally of said drawer, said actuating means being connected at one end to said drawer front and having at its other end means adapted to be moved by said cam to move said drawer front from tilted position to upright position as said cam is moved by said operating means.

3. A filing cabinet comprising a casing, a drawer mounted for movement into and out of said casing and having a front, said front being hingedly mounted on said drawer and movable between upright and tilted positions, a pivoted cam mounted on said casing, actuating means including members carried by and movable longitudinally of said drawer, said means being pivotally connected at one end to said drawer front and having, at its other end, means engageable in a slot in said cam, and a cam operating member mounted on said drawer and engaging said cam as said drawer approaches the limit of its movement into said casing to cause pivotal movement of said cam and to move said drawer front from tilted position to upright position by said actuating means.

4. A filing cabinet comprising a casing, a drawer mounted for movement into and out of said casing and having a front, said drawer front being hingedly mounted on said drawer and movable between upright and tilted positions, a cam pivotally mounted on said casing and having a cam slot, a cam operating member carried by said drawer and operatively engaging said cam as said drawer approaches the limit of its movement into said casing, and means operatively connected to said drawer front adapted to engage in said cam slot prior to engagement of said cam operating member with said cam and to be moved by said cam.

5. A filing cabinet comprising a casing, a drawer mounted for movement into and out of said casing and having a front, said drawer front being hingedly mounted on said drawer at the bottom thereof and being pivotally movable between upright and tilted positions, a cam pivotally mounted on said casing and having a cam slot, a cam operating member mounted on said drawer and engaging said cam as said drawer approaches the limit of its movement into said casing to cause pivotal movement of said cam, and means carried by said drawer adapted to engage in said cam slot prior to engagement of said cam operating member with said cam, said means being operatively connected to said drawer front and movable by said cam.

6. A filing cabinet comprising a casing, a drawer mounted for movement into and out of said casing and having a front, said drawer front being hingedly mounted on said drawer at the bottom thereof and movable between upright and tilted position, a cam pivotally mounted on said casing and having a cam slot, drawer front actuating means including pivotally connected members carried by said drawer and slidably movable longitudinally thereof, and a cam operating member mounted on said drawer and operatively engaging said cam as said drawer approaches the limit of its movement into said casing, said actuating means being pivotally connected at one end to said drawer front and having at its other end means adapted to engage in said cam slot prior to engagement of said cam operating member with said cam, said last mentioned means and said actuating means being movable by said cam to move said drawer front from tilted position to upright position.

7. A filing cabinet comprising a casing, a drawer mounted for movement into and out of said casing, a front for said drawer movable be-

tween upright and tilted positions and means carried by said drawer and said casing cooperating in controlling movement of said front between said positions, said drawer front having at its lower end an upwardly extending flange with a plurality of tongues struck out of said flange, said tongues pivotally engaging a portion of said drawer and permitting movement of said drawer front between upright and tilted positions.

8. A filing cabinet comprising a casing, a drawer mounted for movement into and out of said casing, said drawer having a body and a front movable between upright and tilted position and means carried by said drawer and said casing cooperating in controlling movement of said front between said positions, said front having a transverse channel portion at its bottom formed with an upwardly extending inner flange, a plurality of tongues formed in said inner flange, said body having a depending flange having a rearwardly directed

lip at the front end thereof extending into said channel portion over said inner flange, said tongues being bent forwardly against and over said rearwardly directed lip and pivotally supporting said front on said flange for movement between upright and tilted positions and said tongues engaging against said lip in said tilted position to limit the amount of said movement.

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