Dec. 15, 1942. L. LOMBARDINI 2,305,299

VERTICAL FILE DRAWER

Filed June 11, 1940

Fig. 1

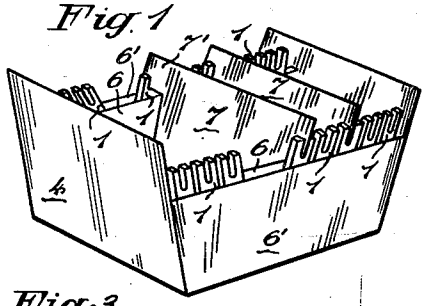


Fig. 2

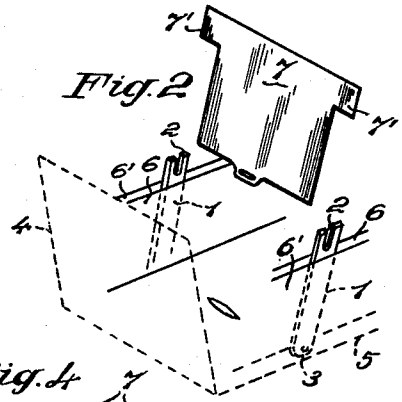


Fig. 3

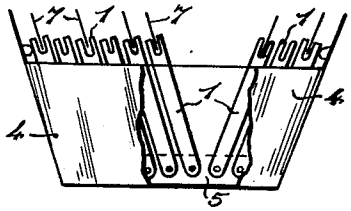
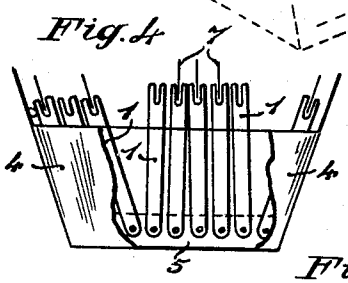


Fig. 4



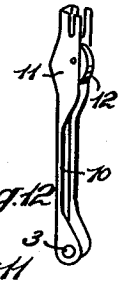


Fig. 12

Fig. 5

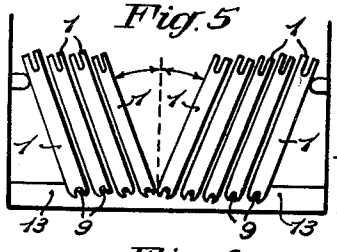


Fig. 7 Fig. 8 Fig. 9 Fig. 10 Fig. 11

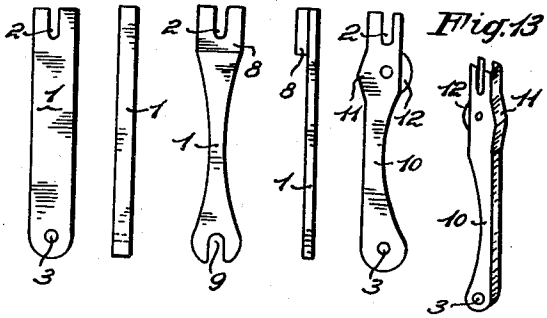


Fig. 13

Fig. 6

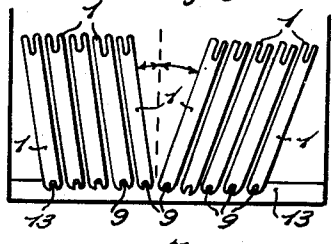
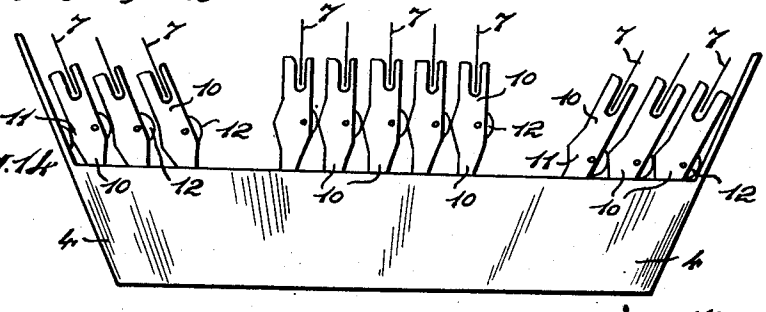


Fig. 14



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UNITED STATES PATENT OFFICE

2,305,299

VERTICAL FILE DRAWER

Luigi Lombardini, Turin, Italy; vested in the Alien Property Custodian

Application June 11, 1940, Serial No. 339,994
In Italy June 16, 1939

5 Claims. (Cl. 129—16)

The present invention has for its object some improvements in file drawers of a vertical type, particularly those provided with spacers or spacing elements adapted to keep the partitions of the file drawer at constantly parallel distances when handling the file drawer.

According to some previous United States and Italian patents of the same applicant, the said spacers are formed by appropriate elements running on guides applied to the top part of the sides of the file drawer and supporting the partition, as in U. S. Patent 2,169,562, or by small wings or projections provided with little wheels or other appropriate rotating means borne by the partitions themselves, as in U. S. application 274,174, filed December 22, 1938, and in Italian Patent No. 362,200 of August 17, 1938.

The improvements which form the object of this invention concern a new form and arrangement of the spacers which are constituted substantially of elements placed vertically in the immediate proximity of the sides of the file drawer having each an end pivoted or mounted so as to oscillate on the bottom of the drawer, while the opposite end is made in such a manner as to receive one of the small wings or projections of the partition, while offering analogous scopes for use, that is always with the object to ensure the keeping of the partitions of the file drawer at constantly parallel distances in the various positions which they may take up during their handling.

The invention will be now particularly described in reference to the annexed drawing in which are illustrated some preferred forms of embodiment which are given only as examples and without limitation.

In said drawing:

Fig. 1 is a view in perspective of a file drawer supplied with partitions and spacers in accordance with the invention;

Fig. 2 shows in perspective a partition adapted to co-operate with the spacers in accordance with the invention;

Fig. 3 is a side view of a file drawer complete with spacers shown in an inclined position;

Fig. 4 shows some of the spacers referred to in Fig. 3 in a vertical position; in this form of embodiment of the spacers there is no strict and constant parallelism of the partitions as in the case of spacers shown in Figs. 11–13;

Figs. 5 and 6 show in a lateral view, the side having been removed, the position taken up by removable spacers in accordance with an example of embodiment of the invention in which it is possible to alter within certain limits the angle of aperture;

Figs. 7 to 10 illustrate, respectively in front and side views, two forms of embodiment of the spacers, fixed or movable, according to the invention, preferably of light substance (wood, Bakelite, etc.) which may be also suitably shaped;

Figs. 11, 12 and 13 show, respectively in front and perspective views, another form of embodiment of the spacers preferably of metal;

Fig. 14 is a side view of a file drawer provided with spacers as per Figs. 11–13, by means of which it is possible to obtain a strict and constant parallelism between the various partitions independently of the position taken up by the said partitions in the file drawer.

As appears from the said drawing in which the same reference numbers are applied to the same parts, the spacer forming the object of this invention is essentially formed according to the forms of embodiment illustrated in Figures 2 to 10, by an element 1 in the shape of a small block or vertical rod, preferably of a light material such as for instance wood, Bakelite, metal sheet, etc., of appropriate width, height and thickness.

In the embodiment shown in Figures 7 and 8, the top end of the said spacer has a cut 2 which extends vertically for a certain length, while the rounded lower end is provided with an aperture 3. Inside the file drawer 4 are inserted, in the number required, the said vertical spacers 1 which will then be fixed in position, for instance, by pivoting laterally to the bottom 5 of the said drawer, (Figures 3 and 4). Thus fixed, the vertical spacers will appear placed in counterposed position along the two sides. According to an embodiment shown in Figures 1 and 2, there is also provided an intervening space formed by the internal space of a double side 6, 6', of the drawer, to receive spacers 1 which will thus have a greater freedom of motion by not being in any way in contact with the files inserted into the drawer.

Partitions 7 will then be inserted at the desired location in file drawer 1, care being taken that the two side projections 7' thereof fit respectively into the corresponding cuts 2 of two counterposed spacers, thus obtaining that all the partitions shall keep always their parallelism in the various phases of use or handling of the file drawer, which parallelism is most useful and desirable for a proper operation of the file drawer.

In Figures 5, 6, 9 and 10 (in these latter two figures the spacer is suitably shaped so as to give it a greater lightness), there has been represent-

ed a spacer 1 removable rather than fixed; thereby it has been made possible to secure an easier mounting of the spacers as well as to alter within certain limits the angle of aperture for the examining of the cards or documents on file (as is shown particularly in Figures 5 and 6). For that object spacers 1, instead of having at their lower end a hole such as 3, end with a slot or cut 9 resting on the corresponding pivots applied laterally to the bottom of the drawer as in the preceding embodiment. In Fig. 5 are made visible the end pivots 13 without their respective spacers which have been removed in order particularly to secure a greater and more convenient angle of aperture in relation to the angle originally planned. In fact, by inserting another spacer 1 on an end pivot 13, as illustrated in Fig. 6, one will have a smaller angle of aperture which will be still reduced to the angle of aperture intended even when another spacer will be inserted on the remaining end pivot 13. It should be further noted that in this embodiment the top end of the spacer 1, bearing cut 2, may be also provided with a small block 8 conveniently fixed to vertical element 1, as illustrated in Figure 10.

In the forms of embodiment previously described it is possible to obtain only a relative parallelism between the various partitions (see, for example, Fig. 4), because it is not strictly constant for all the different positions that the said spacers take up in the file drawer; in this connection reference is made to the indications contained in the previous Italian Patent No. 362,200 already mentioned of the same applicant.

The compensation of the said differences of parallelism and the latter's maintenance in a strictly constant manner is provided for in the form of embodiment of spacer illustrated in Figures 11 to 14. As appears in the said figures, the spacer 10 is formed preferably from a small piece of metal sheet conveniently bent, and, at the top, has also the form of a small shaped vertical block provided with a cut 2; and in its lower part, the said spacer is provided with a hole 3, which eventually may be substituted by a cut or slot like 9 to render the spacer removable.

In order to compensate the parallelism and nder it strictly constant in all the positions of e partitions, each spacer is provided in its top part with a projection having a double inclined plane 11, as well as a roller or wheel 12 aptly placed on the opposite side; the said roller or wheel 12 having particularly the task of reducing to a minimum value the friction originating from the various displacements of the spacer, transforming it from sliding into a rolling one.

In accordance, therefore, with what is indicated in Italian Patent No. 362,200 above mentioned and as schematically illustrated in Fig. 14, one will have also obtained with such a disposition a strict and constant parallelism amongst the various partitions as well as a reduction to a minimum of the friction caused by their various displacements.

It is obvious that the form of embodiments illustrated and described only by way of example and without limitation are furthermore susceptible of such variations and modifications as come within the aim of this invention as shown in the following claims.

What I claim and desire to secure by Letters Patent is:

1. An improved file drawer of the vertical type, said drawer being provided with a plurality of spacers and a plurality of co-operating partitions afforded parallelism by said spacers, said spacers being composed essentially of rods which can assume forwardly inclined, vertical and rearwardly inclined positions, said rods being formed of light rigid material, the upper part of each of said rods having an open-topped substantially vertical slot therein adapted to receive a side projection of one of said partitions, and each being provided at its lower part with an opening adapted to engage a holder element carried by said drawer, near its bottom, to retain the lower ends of said rods against forward and rearward motion, while allowing forward and rearward movement of the upper ends of said rods and partitions.

2. Improvements in file drawer suitable for holding documents in a vertical position, in which are provided partitions cooperating with spacing elements, said partitions and elements being capable of an oscillating movement, forward and backward, whereby to form in any desired point of the file drawer a V-shaped opening while the documents remain parallel to each other, characterized by the fact that said spacing elements are constituted by a double set—one for each side of the drawer—of rod-like elements connected in oscillating manner at their lower ends to holders rigidly positioned in the bottom sides of the drawer and said rod-like elements each bearing at its upper part a slot adapted to receive and to guide a corresponding upper lateral projection of a partition, said rod-like elements being so constructed and formed, in such a manner that by pushing one another—in order to form a V-shaped opening in the desired point of the drawer—they are able to maintain the adjacent partitions carried by them always parallel in respect to each other.

3. Spacing elements as per claim 2, characterized by the fact that they are provided at their upper part, at the point at which each pushes its neighbor, with rotating means in order to reduce the friction between one spacer and its neighbor, in their passage from one inclined position to the opposed inclined position, and being further provided on the parts opposite said rotating means, with a ramp member in order to ensure a strict and constant parallelism between the partitions in their various displacements.

4. Spacing elements as per claim 2, characterized by the fact that the lower end of the spacer which is connected with the bottom of the drawer is formed with a hole for pivoted connection with the drawer.

5. Spacing elements as per claim 2, characterized by the fact that the lower end of the spacer which is connected with the bottom of the drawer is formed with a slot for disengageable pivotal connection with the drawer.

LUIGI LOMBARDINI.