Jan. 11, 1955 E. C. WEISKOPF 2,699,370

FILING CABINET AND DRAWER FOR MICROSCOPE SLIDES

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Fig. 1.

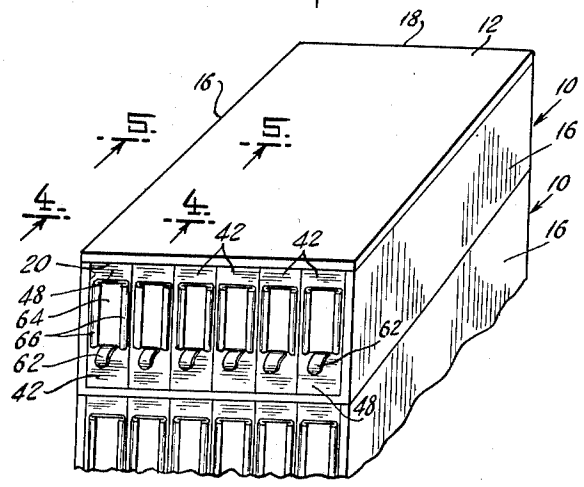


Fig. 2.

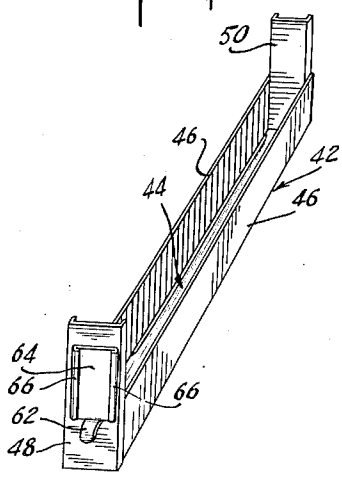


Fig. 3.

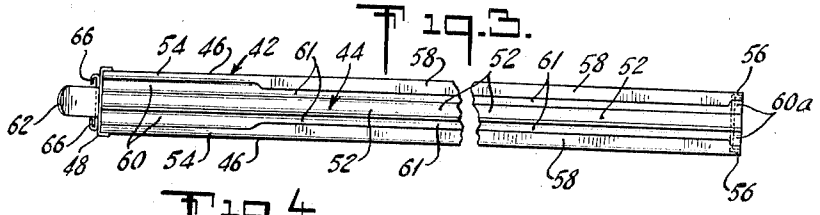


Fig. 4.

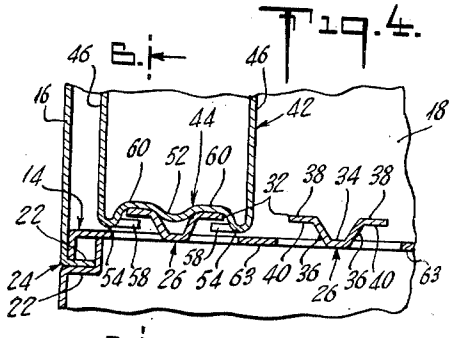


Fig. 5.

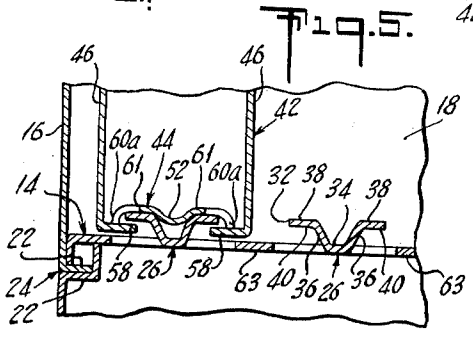
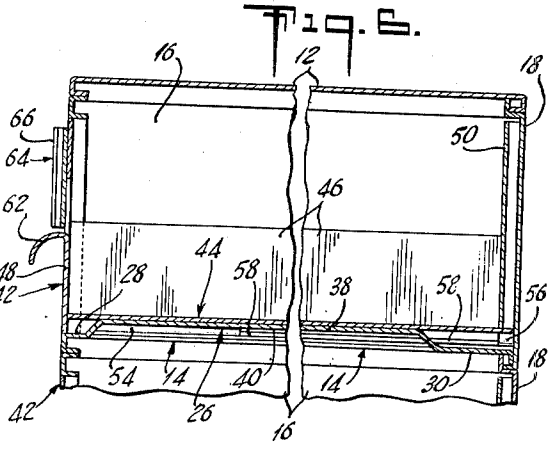


Fig. 6.



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FILING CABINET AND DRAWER FOR MICROSCOPE SLIDES

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Application January 30, 1952, Serial No. 268,942

2 Claims. (Cl. 312—346)

The present invention relates generally to filing cabinets and, more particularly, to filing cabinets primarily intended to be used for filing a multiplicity of slides, such as, for example, those generally utilized with microscopes for biological and bacteriological purposes, and generally known as "micro-slides." The cabinet of the present invention, however, may also have provision for the filing of photographic slides, such as lantern slides and "Kodachrome" slides.

An object of the present invention is to provide an improved filing cabinet, of the above described character, having drawers readily engageable with guides provided in said cabinet, which guides also cooperate to prevent the vertical movement of said drawers whereby the drawers can be withdrawn for a substantial distance from said cabinet without danger of being accidentally dislodged from the cabinet.

Another object is to provide the drawers and cabinet frame with complementary relatively slidable interengaging means for supporting the drawers for sliding movement in the cabinet frame in such manner that the friction between said complementary means is relatively low, the construction being such that the use of roller or ball bearings, or other similar anti-friction bearings, is not required.

Another object is to provide an improved cabinet drawer guide which obviates the need for separately securing the guide to the cabinet bottom.

A further object is to provide an improved drawer structure wherein the walls, the bottom, and a plurality of guide means on said bottom are all formed from a single strip of sheet material.

The above and other objects, features and advantages of the invention will be fully understood from the following description considered in connection with the accompanying illustrative drawings, wherein

Fig. 1 is a perspective view of part of a sectional cabinet embodying the present invention;

Fig. 2 is a perspective view of a drawer according to the present invention;

Fig. 3 is a bottom view of the drawer shown in Fig. 2;

Fig. 4 is a sectional view taken along line 4—4 of Fig. 1;

Fig. 5 is a sectional view taken along line 5—5 of Fig. 1; and

Fig. 6 is a sectional view taken along line 6—6 of Fig. 4.

Referring now to the drawings in detail, the filing cabinet of the present invention is preferably of the sectional type, as illustrated in Fig. 1, and comprises a plurality of cabinet or frame sections **10**, disposed one on top of the other, in stacked relation, and provided with a top or cover section **12** for closing the top of the uppermost section of the filing cabinet. It will be understood that the cabinet may be provided with a suitable base section for the lowest stacked filing section **10**. Each section **10** is formed of sheet metal, preferably sheet steel, and comprises a bottom **14**, of the full length and width of the section, side walls **16** and a rear wall **18**. Each frame section **10** defines a housing chamber for a plurality of sliding drawers disposed horizontally in adjacent side-by-side relation in said chamber. The drawers may be constructed of different widths and made interchangeable, as explained in my Patent 2,364,409, for a "Cabinet," dated December 5, 1944, and in my Patent No. 2,559,203, July 3, 1951. Said chamber has

a front opening **20** through which the drawers are inserted and removed, or partly withdrawn, and which is closed by the front ends of the drawers when the latter are fully within the section, the fronts of the drawers being substantially flush with the front of the cabinet when the drawers are closed. As shown in my above mentioned Patent No. 2,559,203, the top of each cabinet section **10** has horizontal edge portions on which corresponding edge portions at the bottom of the section are seated. In Fig. 5, corresponding lateral edge portions **22** are seated as indicated at **24**. Reference is also made to said Patent No. 2,559,203 for the manner in which the sections **10** are held in position.

The bottom **14** of each cabinet section **10** is provided with a plurality of integral longitudinal guide members **26** extending rearwardly from an integral bottom portion **28** adjacent front opening **20**, as illustrated in Fig. 6, to an integral bottom portion **30**, adjacent rear wall **18**. These guide members are disposed in laterally spaced relation defining longitudinal slots **32** to receive bottom portions of the drawers, as will hereinafter be more particularly described. Guide members **26** are preferably formed by stamping or striking-up portions of bottom **14** between the integral bottom portions **28** and **30**. The guide members are preferably of the same size and are preferably disposed in uniformly spaced relation in the upper surface of bottom wall **14** of the cabinet. Each guide member **26** is substantially U-shaped and has a flat bottom portion **34**, vertical diverging portions **36** forming a longitudinal groove, and horizontal portions or flanges **38** extending outwardly from the companion vertical portion **36**, said flanges being spaced from the upper surface of bottom wall **14**, as indicated at **40** in Fig. 5, to receive portions of the drawers, as will hereinafter be described.

Referring now to the drawers, as shown by Fig. 1, a plurality of drawers **42** are mounted in horizontal side-by-side position in the cabinet section **10**. Although drawers **42** are all shown as of the same narrow width for receiving micro-slides, it will be understood that they may be of various different widths to receive wider slides and cards, respectively, as explained in my above-mentioned patents. Drawer **42** comprises a bottom wall **44**, opposed side walls **46**, a front end wall **48** and a rear end wall **50**. Bottom wall **44** and side walls **46** are preferably formed in one piece from sheet metal stock, preferably sheet steel.

The bottom wall **44** is provided with a longitudinally extending central bead **52** which is downwardly convex and has a transverse smoothly rounded curvature, as clearly shown in Figs. 4 and 5. The radius of curvature of bead **52** is sufficiently large so that said bead does not fully enter into the space between the companion divergent vertical portions **36** of guide member **26**, whereby the curved side portions of the bead are in engagement with the adjacent upper parts of guide portions **36**, respectively, so as to keep down the friction between said bead and the companion guide **26**. It will be noted that the bottom wall **44** is provided at its side edges with longitudinally extending beads or runners **54** which have rounded lower edges, as clearly shown in Figs. 3 and 4 and with beads or runners **56** which similarly have rounded bottom portions.

The stock is preferably die stamped to form the central bead **52** extending longitudinally of drawer bottom **44** from the front to the rear thereof, the upturned opposed lateral walls **46**, bead portions **54** near the front of the side edges of bottom wall **44**, bead portions **56** near the rear of the side edges of bottom wall **44**, the confronting inturned portions **58** extending between beads **54** and **56** of each bottom wall side edge, respectively, and the flat horizontal bottom portions **60** and **60***a* between central bead **52** and the side edges of bottom wall **44**.

It will be noted that rib or bead **52** has laterally projecting longitudinal flanges **61** which are continuous at one end thereof with bottom wall **60** and at the opposite ends thereof with portions **60***a* of bottom wall **44**, and it will be noted further that the confronting inturned portions **58** are formed by striking the same from the

bottom wall of the drawer in forming bead **52** and its flanges **61**. When drawer **52** is in position in the cabinet frame in slidable engagement with the companion guide **26**, the drawer is supported by the transversely rounded bead **52** in sliding contact with guide **26**, the flanges **61** lying above the flanges **38** of guide **26**, with little or no frictional contact between said drawer and said guide flanges. The inturned portions **58** of the sides of the drawer project laterally into the longitudinal slots **32** and lie with small clearance below the flanges **38** of the companion guide **26** and have a slight clearance above underlying portions **63** of the bottom **14** of the companion cabinet frame section, so as to obviate frictional contact between inturned portions **58** and the cabinet frame during the movement of the drawer into and out of the cabinet frame section. Beads **54** and **56** are also spaced somewhat above the bottom wall of the frame section.

Front end wall **48** and rear end wall **50** are preferably welded to side walls **46**, or may be secured thereto in any suitable manner. If so desired suitable means of any type (not shown) may be provided on the upper surface of bottom wall **44** to retain side walls **46** against movement toward each other.

Beads **54** and **56** cooperate with the edges of flanges **38** of guide **26** to prevent movement of the drawer laterally of the companion guide member **26**.

Beads **56** facilitate the ready introduction of drawer **42** into the cabinet by sliding under flanges **38** and extend only a relatively short distance from the rear edge of bottom wall **44** to permit the drawer to be withdrawn from the cabinet for the greater part of its length, and yet permit the drawer to be secured against vertical dislodgement therefrom by the disposition of inturned portions **58** under flanges **38**, even when almost fully withdrawn from the cabinet. Therefore, it is apparent that guides **26** not only guide the drawers, in their movements in and out of the cabinet, but also in combination with inturned portions **58** prevent the downward tilting of the drawers when the latter are partly withdrawn from the cabinet.

It will be noted further that as hereinbefore explained, the radius of transverse curvature of bead **52** is of such size in relation to the space between wall portions **36** of guide **26** that the weight of the drawer and its contents are supported by laterally spaced longitudinal extending curved portions of bead **52** adjacent flanges **61** and wall portions **60** and **60***a* whereby the frictional engagement of the drawer in the cabinet frame is greatly minimized while at the same time the drawer is properly guided for longitudinal movement along a longitudinal track constituted by guide **26** in cooperation with beads **54** and **56**, and relative vertical movement of the drawer in the cabinet frame is prevented so that the drawer can be moved almost entirely out of the cabinet frame, that is until the rear ends of inturned portions **58** clear the forward end of the companion guide **26**, without vertical movement of the drawer. Further it will be noted that rear wall **50** is higher than front wall **48** and is sufficiently high so that when the drawer is moved to its extreme outer position the upper end of the rear wall **50** strikes the upper front edge of the cabinet frame section so as to prevent downward tilting of the cabinet drawer, even when the drawer is in its foremost position outwardly of the cabinet frame. However, when the drawer is in said outermost position it can be removed from the cabinet frame by tilting the drawer upwardly and rearwardly sufficient to disengage the rear ends of inturned portions **58** from the forward ends of the flanges **38** of guide **26**. It will be understood that the above described construction of bead or rib **52** in relation to guide **26** prevents binding of the rib in the groove of guide **26**.

Each drawer is provided with a handle **62** formed by a partially stamped-out portion of front wall **48** which is bent outwardly and downwardly therefrom. A card or label holder is provided by a plate **64** welded, or otherwise secured, to the front wall **48** over the opening therein left by bend-down handle **62**, and provided with

confronting holder portions **66** whereby a card may be readily slipped between portions **66** to rest on handle **62**.

Although the presently preferred embodiment of my invention, as illustrated in the drawings, shows the drawer being used with guides which are integral with the bottom cabinet wall, it will be understood that the drawer can be used with guides which are not integral therewith, for example, the guides shown in my above referred to Patent No. 2,559,203.

This application is a continuation in part of my application Serial No. 79,153 filed March 2, 1949, now Patent No. 2,668,746 issued February 9, 1954.

While I have shown and described the presently preferred embodiment of my invention, it will be understood that various changes in the details of construction and in the form and arrangement of parts may be made without departing from the underlying idea or principles of this invention within the scope of the appended claims.

Having thus described my invention, what I claim and desire to secure by Letters Patent, is:

1. In a cabinet, a frame having a bottom and a front opening, and a drawer supported on said bottom and movable thereon into and out of said frame through said front opening, said bottom having a guide member provided with a longitudinal open-top groove and said drawer having a bottom provided with a longitudinal downwardly projecting rib slidably engaging said bottom of the frame in said groove for said movement of the drawer into and out of the frame, said rib having a transverse curvature and being wider than the bottom of said groove, whereby the side walls of said groove are slidably engaged by transversely curved portions of said rib with clearance between the bottom of said groove and the bottom of said rib to prevent binding of the rib in said groove, said guide member having laterally projecting parts spaced above the bottom of the frame and said drawer having inturned portions which are disposed under said laterally projecting parts to limit vertical movement of the drawer when the latter is partly withdrawn from the frame, said inturned parts of the drawer and said laterally projecting parts of said guide member also providing means to limit movement of the drawer laterally of said guide member.

2. In a cabinet, a frame having a bottom and a front opening, and a drawer supported on said bottom and movable thereon into and out of said frame through said front opening, said bottom having a guide member provided with a longitudinal open-top groove and said drawer having a bottom provided with a longitudinal downwardly projecting rib slidably engaging said bottom of the frame in said groove for said movement of the drawer into and out of the frame, said rib having a transverse curvature and being wider than the bottom of said groove, whereby the side walls of said groove are slidably engaged by transversely curved portions of said rib with clearance between the bottom of said groove and the bottom of said rib to prevent binding of the rib in said groove, said guide member having laterally projecting parts spaced above the bottom of the frame and said drawer having inturned portions which are disposed under said laterally projecting parts to limit vertical movement of the drawer when the latter is partly withdrawn from the frame, said inturned portions of the drawer having vertical clearance between the overlying laterally projecting parts of the guide members and the underlying parts of the bottom of the frame, said inturned portions of the drawer consisting of parts struck out from the bottom of the drawer and integral therewith.

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