July 13, 1965 G. A. BURGESS 3,194,623

DRAWER SUSPENSION RETAINER

Filed June 21, 1963

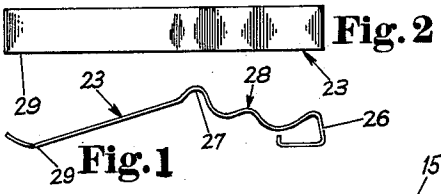


Fig. 1

Fig. 2

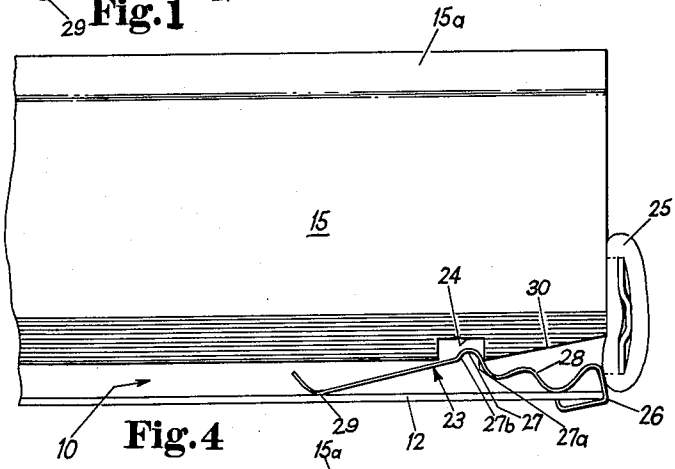


Fig. 4

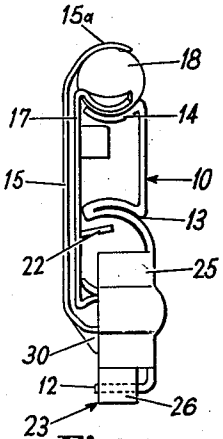


Fig. 3

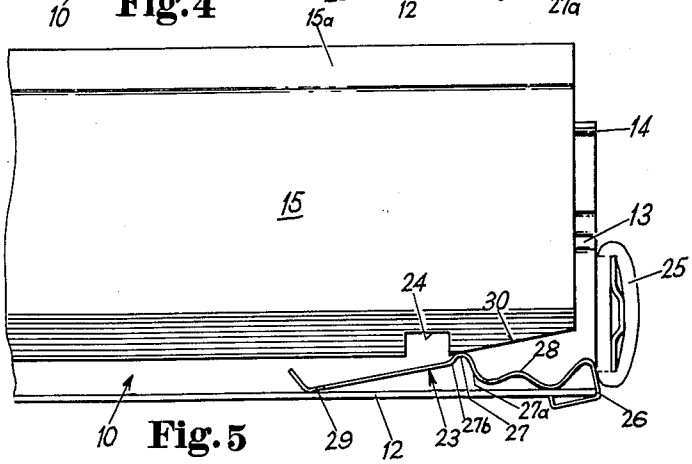


Fig. 5

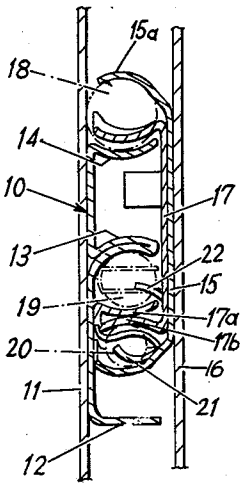


Fig. 6

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DRAWER SUSPENSION RETAINER

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1 Claim. (Cl. 312—333)

This invention relates to a drawer suspension such as found in filing cabinets and the like, and more particularly to a new and improved retainer which will releasably hold a drawer in the closed position.

Filing cabinet drawers as compared with the drawers in a desk or other piece of furniture present unusual and difficult problems. In the first place, filing cabinet drawers are generally rather long, and in the second place they are often quite heavily loaded. The combination of these factors makes the suspension of the drawer particularly important. That is, a simple set of slides would be entirely inadequate.

These problems have been for the most part satisfactorily solved by the development of what may be called a progressive drawer suspension. Such a suspension usually involves a set of tracks secured to the inside of the filing cabinet, a set of rails secured to the drawer, an intermediate runner between the tracks and the rails, and a system of bearings cooperating between these various elements. The tracks, rails, and intermediate runner are all of approximately the same length, and are so arranged that as the drawer is opened or extended, the intermediate runner will also be extended, but at half the speed of the drawer, and will therefore extend only half the length of the drawer in its outermost position. This construction not only assists in the smooth operation of the drawer, but also serves as a support for the drawer when extended to its full open position.

The ease with which such a drawer will glide in and out has presented still another problem. It is now necessary to provide some means whereby the drawer is releasably retained in its closed position. Prior suspensions have partially solved this problem by providing a depression in the bearing tracks, into which the bearings drop when the drawer is in its closed position. Such arrangements are largely satisfactory, but are relatively difficult and expensive to fabricate in relation to the other components of the drawer suspension.

Accordingly, it is therefore an object of this invention to provide a drawer suspension retainer which will releasably hold a filing drawer or the like in its closed position.

Another important object of this invention is the provision of a retainer which is more easily and inexpensively manufactured than has heretofore been possible.

These objects, along with others which will become apparent to the skilled worker in the art as this specification proceeds, are accomplished by the construction and arrangement of parts described in more detail hereinafter. Reference will be made from time to time to the accompanying drawing showing an exemplary embodiment of the invention, and in which:

FIGURE 1 is a side elevational view of the spring of this invention;

FIGURE 2 is a top view of the spring of FIGURE 1;

FIGURE 3 is an end elevational view of a progressive drawer suspension embodying the retainer of this invention;

FIGURE 4 is a side elevational view of a portion of a drawer suspension in the fully closed position and showing the retainer of this invention;

FIGURE 5 is a side elevational view of a progressive drawer suspension and the retainer of this invention, immediately prior to closing; and

FIGURE 6 is a cross-sectional view through a conventional progressive drawer suspension.

It should be pointed out and emphasized at this time that this invention is concerned solely with the construction of a retainer for a drawer suspension, and not with the suspension itself. In other words, the features of this invention are readily applicable to any of the progressive drawer suspensions currently available on the market.

Accordingly, the details of the construction of the progressive drawer suspension will be rather general. A full and complete description of a progressive drawer suspension may be found in United States Letters Patent No. 2,162,318 in the name of Fred A. Schmitz and entitled Drawer Suspension. As seen in cross section in FIGURE 6, a progressive drawer suspension may include a track **10** secured in any suitable manner to the inside wall **11** of a filing cabinet. The track **10** includes the inwardly extending lower flange **12**, the central flange **13**, and the upper flange **14**. These last two mentioned flanges will be curved as indicated in the drawing to provide races for the balls as described in more detail hereinafter.

The suspension also includes a rail or channel **15** which may be secured in any suitable manner to the side wall **16** of a filing cabinet drawer.

Between these members is the intermediate runner **17**, which though of the same length as the track **10** and the rail **15**, will only be extended for one half its length the drawer is extended to its full open position.

The large ball **18** rides in the race formed by the upper flange **14** of the track and the top **15***a* of the rail **15**, extending through a hole in the intermediate runner **17**. The smaller balls **19** and **20** provide a bearing between the race **17***a* of the intermediate runner and the flange **13** of the track, and between the race **17***b* of the intermediate runner and the rail **15** respectively. As additionally shown in FIGURE 6, it is conventional to provide abutments such as **21** in the rail **15**, and **22** in the intermediate runner **17** to confine the balls **20** and **19** respectively within their races. Such abutments may conveniently be formed by punching a small tab inwardly from the side of the member in the proper location.

Turning now to FIGURES 4 and 5 which show in side elevation the rearmost portion of a drawer suspension, the retainer of this invention may be described in more detail. It includes a spring indicated generally at **23**, which cooperates with the notch **24** and the bumper **25** to securely but releasably hold the drawer suspension in the closed position. The spring **23** is, in the preferred embodiment of the invention, a strip of resilient material having a flange engaging clip portion **26**, adapted to engage the flange **12** of the track **10**. The spring **23** also includes a tapered, upwardly, extending, yieldable abutment or detent **27**.

Between the detent portion **27** and the clip portion **26**, the spring is provided with one or more corrugations as at **28**, and the free end **29** of the spring rests on the flange **12**. This arrangement permits a small amount of axial resiliency, the importance of which will become apparent hereinafter.

In the preferred embodiment of this invention, the notch **24** is formed while punching a tab (such as **21** in FIGURE 6) inwardly in the rail **15** to confine a ball in its proper race. The portion of the rail **15** immediately behind the notch **24** is beveled as shown at **30**. By comparing FIGURES 4 and 5, it will be seen that as the rail **15** is retracted toward its fully closed position, the bevel **30** will engage the detent portion **27** of the spring, gradually depressing it until the spring snaps up into the notch **24** in the fully closed position. It will be seen that the relationship between the detent **27**, the corrugations **28**, the notch **24**, and the resilient bumper **25** is such that

when the rail **15** is in its fully closed position, the rail **15** is firmly, but yieldably held in that position. That is, the rear and more steeply sloped portion **27***a* of the detent snaps into the notch **24**, the corrugations **28** are extended, and tend to urge the rail **15** to the fully closed position.

It will also be noted that the front portion **27***b* of the detent is less steeply sloped than the rear portion **27***a*. The coaction of the sloped portion **27***b* and the bevel **30** serves to permit the slide or rail **15** to easily attain the fully closed position, while the coaction of the more steeply sloped portion **27***a*, the corrugations **28**, and the straight edge of the notch **24** securely maintains the suspension in the closed position.

Many modifications can be made in this invention without departing from its scope and spirit. While the invention has been described in terms of an exemplary embodiment, no limitation is intended except insofar as set forth in the following claim.

What is claimed as new, and what it is desired to secure by Letters Patent is:

In a filing cabinet having at least one drawer, and including a track secured to said cabinet, a rail secured to said drawer, an intermediate runner between said track and said rail, and a system of bearings cooperating therebetween; the improved retainer comprising a resilient bumper at one end of said track to stop said rail and said runner at the closed position, a spring detent secured to said track, said spring detent comprising a strip of resilient material having a clip portion at one end adapted to

engage said track, and including a tapered, upwardly extending, yieldable abutment, a bevel on said rail disposed to depress said detent as said rail and runner are moved toward said closed position, and a notch in said rail disposed to cooperate with said detent and said bumper to releasably hold said rail and runner in closed position, said abutment being arranged to engage said notch in said rail when said rail is in the closed position, said spring detent including at least one corrugation between said yieldable abutment and said notch and the rear portion of said tapered abutment being more steeply sloped than the front portion thereof, whereby said suspension unit is releasably retained in the fully closed position.

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