Aug. 23, 1966 R. A. KRAFT 3,267,546

CLIP SUPPORT

Filed June 12, 1964

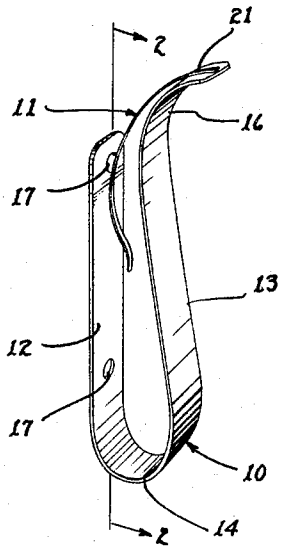


Fig. 1

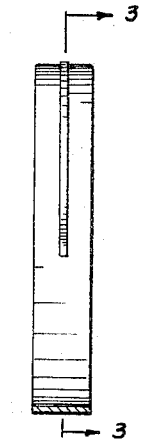


Fig. 2

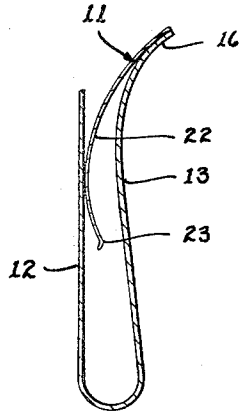


Fig. 3

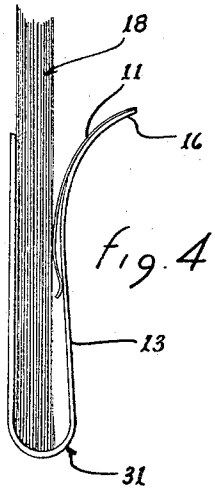


Fig. 4

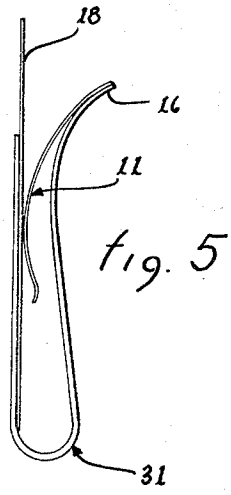


Fig. 5

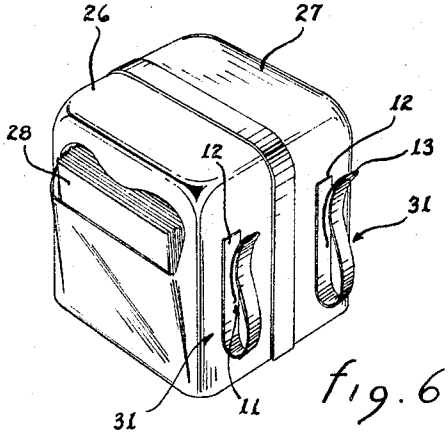


Fig. 6

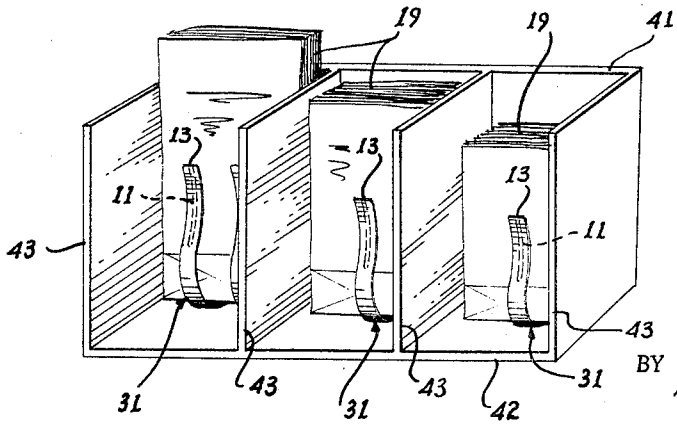


Fig. 7

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CLIP SUPPORT

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1 Claim. (Cl. 24—259)

My invention relates in general to an improved clip support structure, and more in particular to a clip support structure which is adapted to support a relatively large number of stacked devices such as cards, menus, paper sacks, note paper and the like, but which will also hold very effectively a single thin sheet of paper.

Clips of all kinds are well-known in the arts, including clips for pens and pencils, clips for use on so-called clipboards, clips for supporting a stack of menus, clips to support information circulars and the like. Such clips come in many sizes and shapes, but generally speaking comprise either a unit of spring material bent on itself to produce a holding action or a less resilient type of engaging member biased in a holding direction by means of a second element such as a leaf spring, coil spring, special rubber member or the like. When clips comprise a plurality of elements they are necessarily more costly than single element clips. While clips comprising a single piece of material bent on itself are preferable from a cost standpoint, however, it is essential that the material employed be selected to perform the necessary function of resiliently biasing itself against a base portion if single sheets of paper, for example, are to be held in place. While a very large number of materials have some modulus of elasticity, the movement required to stress materials beyond their elastic limit is relatively small unless very expensive materials are employed. There are types of special steel, for example, which can be moved quite extensively without stressing them beyond their elastic limit, and there are also some non-ferrous alloys such as beryllium-copper, but such materials require very careful metallurgical treatment and they are usually too expensive for use in common types of clips. As a result of the conditions narrated, a clip-like support formed of relatively common varieties of spring steel intended for use in securing a relatively thick assembly of paper devices or the like, includes a resiliently biased portion which will either be initially positioned so as not to hold firmly very thin materials, or if the resiliently biased portion is initially in contact with its integral base, the material comprising the clip will soon be stressed beyond its elastic limit and imperfect results thereafter will be obtained. It may be noted also that metallurgically speaking spring materials have their spring properties imparted to them at least in part by cold working procedures. As a rule, stressing beyond the elastic limit deleteriously affects the properties produced by cold working, so that a clip once stressed beyond its elastic limit will never again perform its functions in the intended manner.

The principal object of my invention is the provision of an improved spring clip assembly.

Another object is the provision of a spring clip assembly overcoming the disadvantages identified hereinabove and capable of being produced from relatively very inexpensive raw materials.

A further object is the provision of a spring clip of the type identified which may be employed for a relatively large number of purposes where fully satisfactory clip combinations have not hitherto been available.

In accordance with the main features of my invention, I provide a two-part integral clip structure utilizing a relatively heavy partially resilient material bent on itself to form a clip portion and a base portion, together with a relatively very small cross sectional leaf spring clip device which normally engages the base portion and may be stressed to contact the larger clip without at any time

stressing it beyond its elastic limit. Because of this arrangement the large clip will hold a thick stack of paper devices or the like, and as they are removed the larger clip returns gradually to its initial position and thereafter the small clip in the form of a leaf spring separates from the large clip and acts as a follower to continue to engage the gradually reducing stack of materials so that down to the very last unit in the stack, film engagement is maintained. The clip of the present invention may be used singly or in combination in various ways as will be pointed out in the specification hereinbelow.

Referring now to the drawings, the clip support of my present invention includes a relatively large clip member indicated generally by the reference character **10** and a relatively small spring leaf type of clip indicated generally by the reference character **11**. The clip member **10** includes a base **12** and an integral clip portion **13** with a rounded connecting portion **14** and an outflared upper terminus **16**. The base **12** may be attached to a support in any suitable way and I show screw holes **17** adapted to be employed for attachment purposes. It should be understood, however, that, depending upon the support surface, the base **12** may be riveted, brazed, soldered or adhesively secured to a supporting surface, or in an extreme case might even comprise a part of a housing or the like, although this latter construction is normally not indicated. The rounded or U-shaped portion forms a support for a stack of menus **18** for example as shown in FIG. 4 or a stack of paper bags **19** as shown in FIG. 7. Further reference to this particular arrangement and manner of use, however, will be made as the description progresses. The outflared portion **16** provides a guide so that any number of devices intended to be held by the clip support can be brought into supporting position by merely bringing them downwardly in a single operation without need to steady or manipulate the clip support with the free hand.

The leaf spring type of clip **11** has an upper portion **21** which is firmly attached to the outflared portion **16** by any suitable means, suitably silver soldering. It also comprises a rounded or bowed intermediate portion **22** which, as clearly shown in FIGS. 1 and 3, will at all times engage the base **12** when the clip is not in use. A tail piece **23** engages sufficiently snugly against the surface of the clip portion **13** so as not in any way or at any time to prevent the free insertion or removal of paper or the like devices. As FIG. 4 shows, the leaf spring clip **11** engages substantially flatly against the inside surface of clip **13** when the clip structure is supporting a thick stack of material.

It is apparent from the drawings that the leaf spring clip **11** may be compressed completely against the surface of the clip **13** when the clip support is completely filled so that over-stressing is avoided, it being obvious that the clip **13** is not fully extended in the showing of FIG. 4 so that approximately fifty percent (50%) more menus **18** could be accommodated without stressing the clip **13** beyond its elastic limit. The significant fact is, however, that when the leaf spring clip **11** has been pressed against the surface of clip **13** it is never stressed further, and even if the clip **13** should be stressed enough to cause it to take a slight permanent set, the relatively thin clip **12** would be unaffected, and usually will still engage against the base **12** when the supporting material is removed.

For further understanding of the device of the present invention reference may be made to FIG. 6 showing a napkin holder comprising two separable halves **26** and **27**, each with a recess through which table napkins **28** may be drawn. This type of napkin holder in one form or another is very common in middle class restaurants, and to such a napkin holder I may attach a pair

of clip supports produced in accordance with the present invention indicated generally by the reference character **31**. It will be noted that the base **12** in each instance is attached to the metal housing, the clip portions **13** project, and the leaf spring type of clip **11** is provided in each instance. The clip supports **31**, in other words, will conform to substantially exactly the form shown in FIGS. 1, 2 and 3. This arrangement provides a convenient support for a group of menus **18** as shown in FIG. 4, but a single menu **18** which may even be in the form of a single sheet of paper can be readily be held in position. A headwaiter or a hostess will frequently insert a group of menus into such a support, and the clip support will not be damaged, but will continue to function under substantially all types of abuse expected under the circumstances. While the materials and dimensions may vary, I have found that a clip in which the base **12** and clip **13** are 5/8" to 3/4" wide and approximately 3/32" thick and made from relatively mild steel hardened by cold work will usually suffice during most types of operation. The leaf spring **11**, on the other hand, would be between 1/8" and 1/4" wide and a maximum of approximately 1/64" in thickness. It may suitably be the type of spring steel employed as the main spring in clocks, it being possible to utilize fairly expensive material because very little of it by weight is required. As already stated, the leaf spring type of clip **11** is firmly engaged in surface to surface relation with the outflared portion **16**, any suitable means such as silver solder placing or the like being adequate for attachment purposes. The member **11** is slightly bowed, actually somewhat more than indicated in FIG. 3 because its shape results in part from the fact that it engages against the base **12** and is forced slightly to the right because of such contact. By this means, firm engagement of the leaf spring type clip **11** against the base **12** is maintained. At this time I wish to point out that while the base **12** and clip **13** are suitably and advantageously formed of a single piece of material, the clip **13** may be supported in operable relation to a surface against which the member **11** engages by any suitable means.

In FIG. 7 I show still another manner of using the device of my present invention. A panel **41** suitably formed of wood or plastic has a projection **42** from its lowermost edge which forms a general support for bags **19** of different size. Integral side walls **43** divided the structure into compartments of different size to accommodate different size bags. Clips **31** produced in accordance with my present invention have their bases (not shown) secured to the back panel **41**. Two or more clip assemblies **31** may be employed as shown at the left of FIG. 7, or a single clip **31** where smaller bags are involved. In each instance, there is a large clip **13** as shown in FIGS. 1 through 3 and the leaf spring type clip **11** shown in broken lines. This structure holds bags firmly in position, down to the very last bag, and

permits the removal of bags seriatim without dislodging the stack. This is to be contrasted with the situation commonly found in supermarkets and other retail establishments where bags frequently will be found on the floor because a customer has dislodged several bags during the process of removing one of them. When the bags are supported as shown in FIG. 7, moreover, they are much more available than when placed in crypts which is one of the common ways of supporting bags for the purpose of avoiding dislocation of the entire stack.

I have described my invention in detail so that those skilled in the art may understand the manner of practicing the same, but the scope of the invention is defined by the claim.

What is claimed is:

A clip structure comprising

(a) a single piece generally U-shaped member of relatively large cross section and limited resiliency bent on itself to form

(1) a base attachable to a suitable surface,

(2) a spring clip spaced from the base with a top outflared curved portion and

(3) a generally curved bottom portion interconnecting said base and clip,

(4) said base and clip spaced from each other, and

(b) a bowed leaf spring clip of relatively small cross section and of highly resilient material having one end attached to said outflared portion, an intermediate arcuate portion normally engaging said base, and a free end spaced from the base,

(c) said leaf spring clip adapted to engage against the curved portion of said clip when a relatively thick stack of documents or the like are inserted between said clip and base, the resilience of the spring clips and the dimensions of their curved portions being such that said leaf spring clip will continue to be biased towards said base and can not be stressed beyond its elastic limit during the life of the clip structure.

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