Aug. 25, 1964 R. T. GALLAGHER 3,145,443

CONNECTOR

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FIG. 1

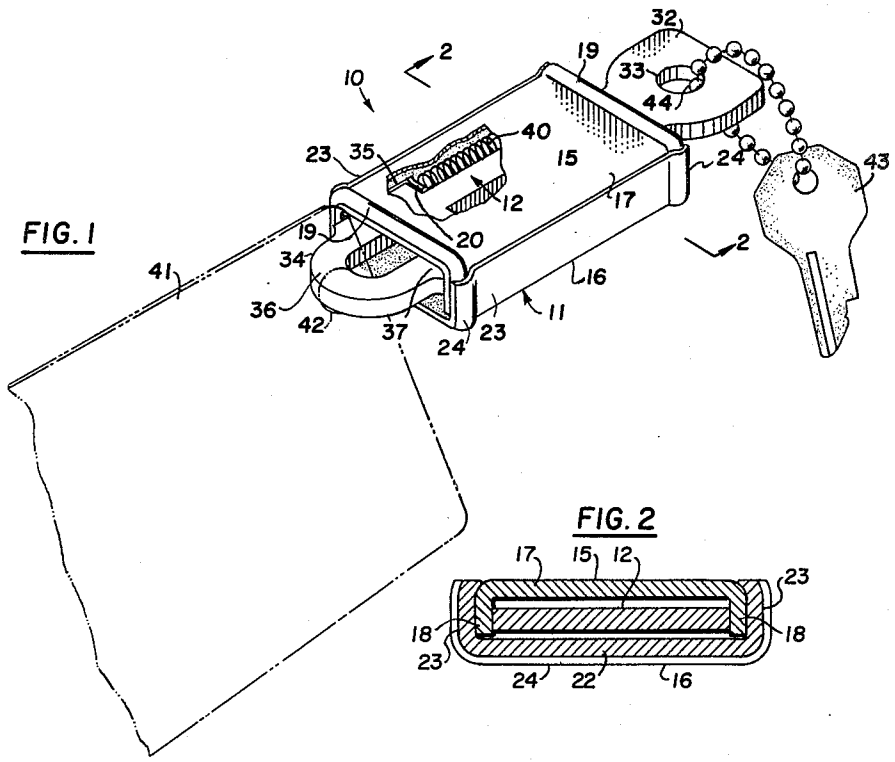
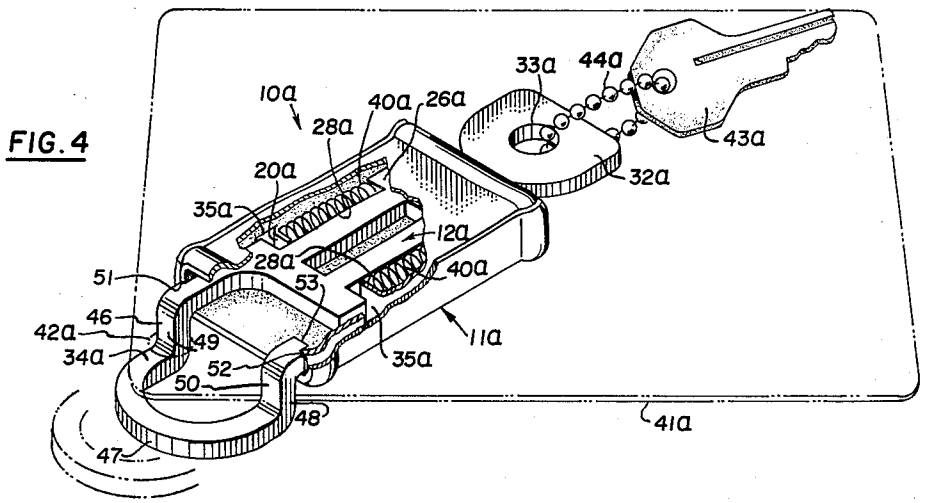


FIG. 2

FIG. 4



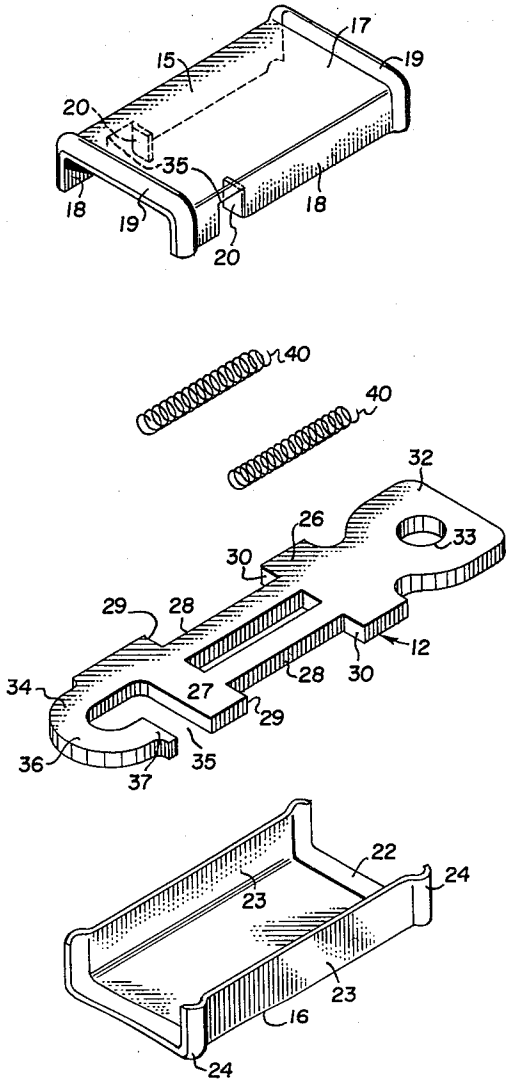
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FIG. 3



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CONNECTOR

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This invention relates generally to connecting devices, and is especially concerned with unique improvements in connectors for keys, cards and the like.

It is an important object of the present invention to provide a connector of the type described which is extremely simple to operate, permitting of quick and easy connection to and removal from the connector of keys, key chains, cards, etc., while effectively insuring that accidental or inadvertent detachment of such devices is positively prevented.

A more particular object of the present invention resides in the provision of a unique connector construction wherein keys, cards, and the like may be detachably but positively connected together in a manner occupying a minimum of space, say for convenient retention in a user's pocket.

It is still a further object of the present invention to provide a connecting device having the advantageous characteristics mentioned in the preceding paragraphs, which is extremely simple in construction, durable and entirely reliable throughout a long useful life, and which can be economically manufactured for sale at a reasonable price.

Other objects of the present invention will become apparent upon reading the following specification and referring to the accompanying drawings, which form a material part of this disclosure.

The invention accordingly consists in the features of construction, combinations of elements, and arrangements of parts, which will be exemplified in the construction hereinafter described, and of which the scope will be indicated by the appended claim.

In the drawings, FIGURE 1 is a perspective view showing a connector of the present invention in operative association with a card and key chain, and partially broken away to illustrate the interior construction of the connector;

FIGURE 2 is a transverse sectional view taken substantially along the line 2—2 of FIGURE 1;

FIGURE 3 is an exploded perspective view showing the device of FIGURE 1; and

FIGURE 4 is a perspective view, partly broken away, showing a slightly modified embodiment of the instant connector.

Referring now more particularly to the drawings, and specifically to FIGURES 1 and 2 thereof, a connector of the present invention is there generally designated 10, and includes a casing 11 of elongate open-ended tubular construction, being of flattened or generally rectangular cross-sectional configuration. Arranged longitudinally within the casing 11 is a slide member, generally designated 12, which is slidable longitudinally in the casing 11, in a manner appearing presently.

The casing 11 may advantageously be fabricated of a pair of elongate channels or channellike sections 15 and 16, which are fixedly secured together in facing relation, one within the other. In assembly, the channel 15 is disposed within the channel 16, and the latter deformed to positively retain the channels in their open-ended tubular configuration.

As best seen in FIGURE 3, the inner channel 15 includes a web wall 17, and a pair of side walls 18 extending along respective side edges of the web 17, substantially normal thereto and disposed in facing, parallel

spaced relation with respect to each other. A bead 19 may be provided at each end of the channel 16, extending continuously along the end edges of the channel walls 17 and 18. A tab or lug 20 may be struck from each side wall 18, at a location spaced from opposite ends of the channel 15, such that the lugs extend inward toward and terminate short of each other.

The outer section or channel 16 includes a web wall 22, and a pair of side walls 23 extending along respective side edges of the web wall in parallel spaced, facing relation for reception therebetween of the channel 15. The channel 16 may be formed along each of its end edges with an outwardly pressed bead or groove, as at 24, for conformably receiving the external beads 19 of the inner section 15. In assembly, the channel section 15 is disposed in facing relation, longitudinally of and within the channel section 16, and the free longitudinal edges of the walls 23 may be bent or swaged inward to permanently secure the channel sections of the casing together in their tubular, open-ended relation.

The slide 12 may best be seen in FIGURE 3, and may be formed of flat sheet or bar stock having an elongate body part 26 slidably received in the casing 11. That is, the body part 26 of the slide member 12 is disposed longitudinally of and slidably within the tubular casing 11; and, the body part may be formed with a central through opening 27, and a pair of longitudinally extending edge cutouts 28 opening laterally outwardly through opposite side edges of the body part. The longitudinally extending side cutouts 28 are each bounded at their opposite ends by faces or edges 29 and 30 defining longitudinally inwardly facing shoulders. The shoulders 29 and 30 of each cutout 28 are spaced longitudinally of the slide member 12 and in facing relation with each other.

Extending from one end of the body part 26, the slide member 12 is provided with an extension 32, which may be provided with a through hole or eye 33, as for receiving a key chain, or the like. The extension 32 may be coplanar with the body part 26.

Projecting outward from the other end of the body part 26, oppositely away from the extension 32 may be an additional extension 34, also substantially coplanar with the body part. The extension 34 may be configured to define a loop or hook having a side opening or slot 35. Thus, the loop or hook configuration of extension 34 has its distal region curved, as at 36 to define the bight of the hook, which region extends to a terminus 37 at the side opening 35.

In assembly, the body part 26 is disposed slidably within the casing 11, such that the internal casing lugs or tabs 20 extend into respective cutouts 28 of the slide member 12. In addition, suitable resilient means, such as a pair of coil compression springs are located within the casing 11, each within a respective cutout 28, extending longitudinally therealong. Such springs are designated 40 and shown in FIGURE 3. More particularly, each spring 40 is located in a respective cutout 28 between one cutout end or shoulder 30 and the adjacent lug 20. That is, the coil compression springs 40 are each disposed longitudinally within a respective cutout 28, having its opposite ends in bearing engagement with the adjacent shoulder 30 and lug 20, to thereby urge the slide member in one direction, upward and to the right as viewed in FIGURE 1. Limiting this spring-biased movement of the slide member 12 relative to the casing 11 is engagement of the lugs 20 each with its adjacent shoulder or face 29. The connector 10 is shown in FIGURE 1 in this limiting position with the slide member 12 having its shoulders 29 abutting the lugs 20. In this condition, the free end or terminus 37 of the hook 34 is inserted or retracted into the adjacent end of the casing 11, so as to conceal the side opening 35 of the hook. Thus, the hook 34 is effectively closed, the casing

11 serving to close the side opening 35. Of course, the hook 34 may be quickly and conveniently opened by merely pressing the slide-member extension 32 inward, retracting the latter partially into the casing 11, which serves to extend the opposite extension or hook 34 and expose the side opening 35. This permits interengagement with and removal from the hook 34 of an article to be connected, such as the card 41 having an aperture 42 receiving the hook 34, see FIGURE 1. Of course, the hole or eye 33 on the extension 32 may be employed to retain a key 43, as by a bead chain 44, or retain other desired device.

In the embodiment of FIGURE 4 is shown a connector generally designated 10*a*, which includes a casing 11*a* and a slide member 12*a*. The casing 11*a* may be identical to the casing 11 of the first-described embodiment.

The slide member 12*a* is similar to the slide member 12, including a body part 26*a* slidably received longitudinally within the casing 11*a* and formed with a pair of oppositely outwardly facing, longitudinally extending recesses 28*a* opening through opposite side edges of the body part and respectively receiving internal casing lugs 20*a*. A pair of coil compression springs 40*a* may be arranged longitudinally within respective cutouts 28*a*, each interposed between one end of the receiving cutout and the adjacent lug 20*a* to urge the slide member resiliently in one direction, upward and to the right as seen in the drawing.

Projecting from one end of the body part 26*a* through an open end of the casing 11*a*, there is provided on the side member 12*a* an extension 32*a* having a through opening 33*a*, as for connection to a key 43*a*, or other desired element.

Projecting from the opposite end of the body part 26*a* of the slide member 12*a* is an opposite extension 34*a* which passes through and out of the other open end of casing 11*a*. The extension 34*a* is advantageously formed as a hook, including a leg 46 extending longitudinally outward from the body part 26*a* adjacent to one side edge thereof, a bight portion or bend 47 extending from the outer end of leg 46 laterally and arcuately, and an additional leg 48 extending longitudinally inward in laterally spaced relation with respect to the leg 46. It will be observed that the legs 46 and 48 are each bent to define transverse or offsetting portions 49 and 50, extending in parallelism with each other beyond one side of the casing 11*a*, to thereby offset the bight portion 47 beyond the casing. Further, the legs 46 and 48 are each formed with longitudinally inwardly facing shoulders, as at 51 and 52 for abutting engagement with the adjacent end of the casing 11*a*. The leg 48 terminates at a free end 53 spaced from the adjacent portion of the body part 26*a*, which space defines a lateral opening or side slot 35*a* corresponding to the opening 35 of the first-described embodiment.

In the normal condition of connector 10*a*, as shown in solid lines in FIGURE 4, the springs 40*a* resiliently maintain the slide member 12*a* in a limiting position of its sliding movement, with the shoulders 51 and 52 in abutting engagement with the adjacent end of casing 11*a*. In this condition, the side opening or slot 35*a* of hook 34*a* is received in the casing 11*a* and thereby closed. However, upon movement of the slide member 12*a* against the action of springs 40*a*, the extension 32*a* is retracted toward the casing 11*a*, and the extension or hook 34*a* is extended away from the casing to expose the side opening 35*a* exteriorly of the casing. In this condition, a card or other object may be interengaged with the hook 34*a*, and the slide member 12*a* released to permit resumption of the illustrated full-line position.

By reason of the unique offsetting arrangement of leg portions 49 and 50, which serve to offset the bight region 47 beyond one side of the casing 11*a*, it will be understood that the card 41*a* receiving the hook 34*a* may be swung into position underlying the casing 11*a*, and thereby with the casing and connector 10*a* occupy a minimum of space. This permits of more convenient retention in a user's pants pocket, as well as easier insertion and withdrawal with respect to the pocket.

From the foregoing, it is seen that a connector for keys, cards, and the like, is provided by the instant invention which fully accomplishes its intended objects and is well adapted to meet practical conditions of manufacture and use.

Although the present invention has been described in some detail by way of illustration and example for purposes of clarity of understanding, it is understood that certain changes and modifications may be made within the spirit of the invention and scope of the appended claim.

What is claimed is:

A connector comprising a generally flat tubular casing having its opposite ends open, a generally flat slide member slidable longitudinally in said casing, said slide member being provided with a pair of longitudinally extending cutouts opening through opposite side edges, a pair of internal lugs projecting from said casing into respective cutouts of said slide member and each engageable with one end of a respective cutout to limit slide movement of said slide member in one direction relative to said casing, a coil compression spring disposed in each of said cutouts and each having its opposite ends engaging the adjacent lug and the other end of the respective cutout to urge said slide member in said one direction, and a pair of extensions on opposite ends of said slide member projecting outward from respective ends of said casing and each extendible and retractable upon back-and-forth sliding movement of said slide member, one of said extensions comprising a hook having a side opening located interiorly and exteriorly of said casing upon respective retracting and extending of said one extension, whereby said hook is adapted to be closed and opened upon retracting and extending of said one extension, said hook having its distal region offset beyond one side of said casing, whereby a card receiving said hook is adapted to underlie said casing.

References Cited in the file of this patent

UNITED STATES PATENTS

623,701	Brisselet	Apr. 25, 1899
1,219,873	Sapo	Mar. 20, 1917
1,644,562	Browning	Oct. 4, 1927
1,711,736	Lorber	May 7, 1929
2,625,976	Reynolds	Jan. 20, 1953
2,640,237	Vaisey	June 2, 1953