

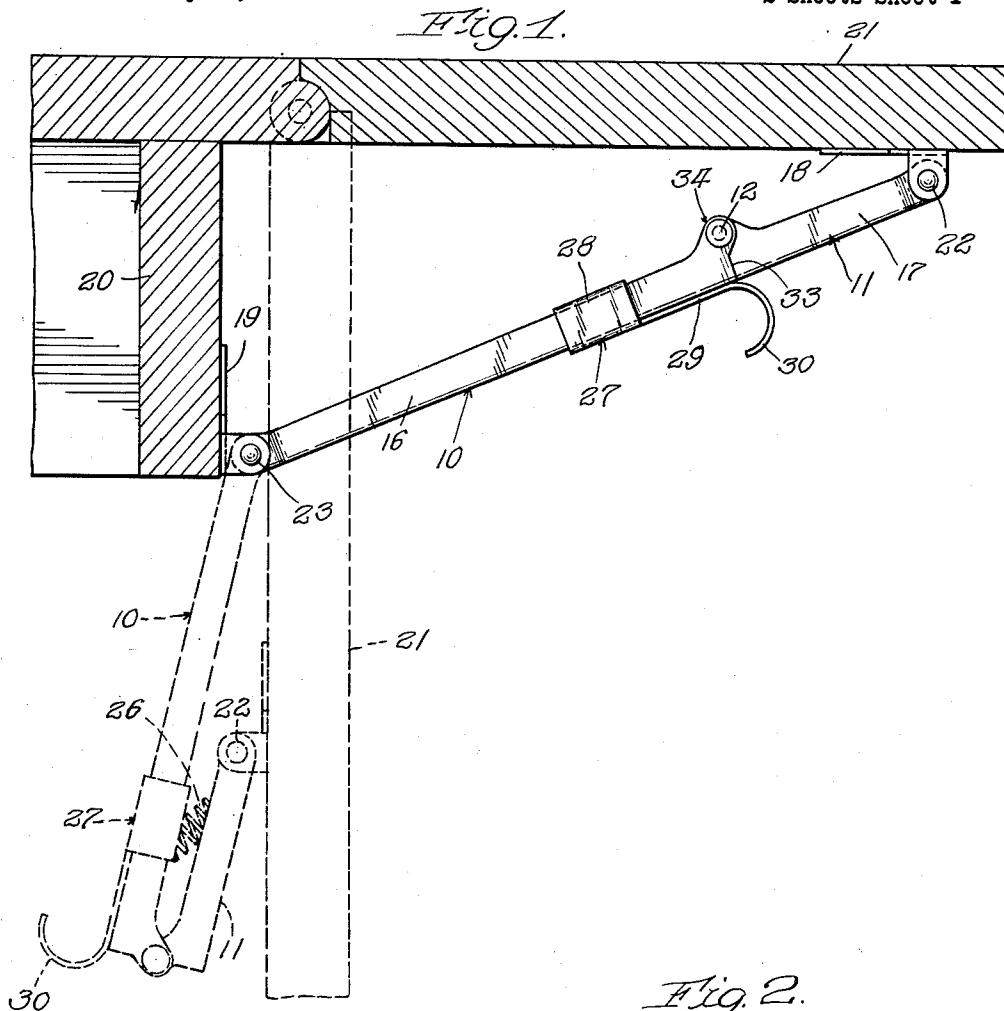
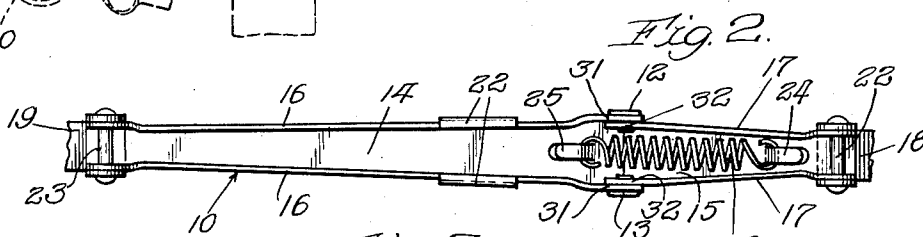
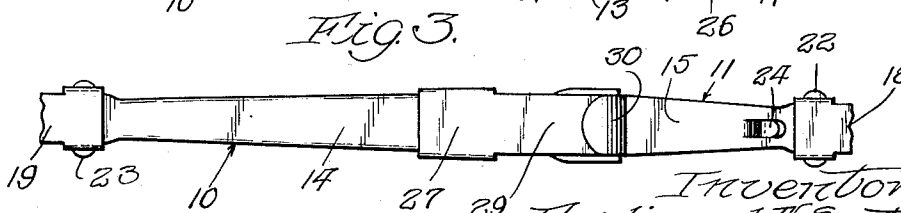
May 20, 1958

F. N. SERTO
HINGED SUPPORT

2,835,522

Filed July 28, 1955

2 Sheets-Sheet 1



Inventor:
Ferdinand N. Serto,
By Schraeder, Hefgren,
Brady, Wegner, Attys.

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Fig. 4

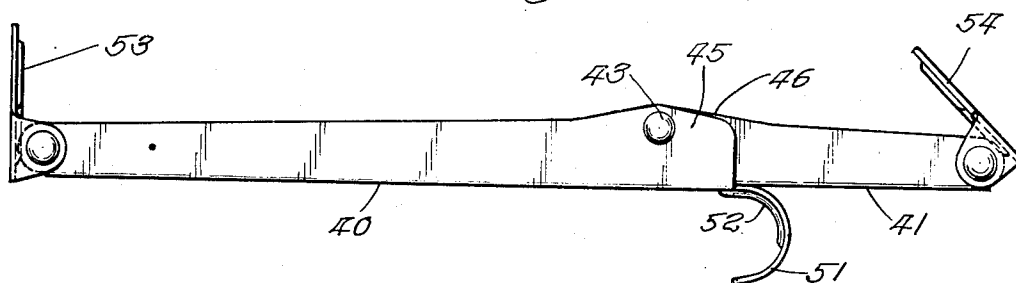


Fig. 5.

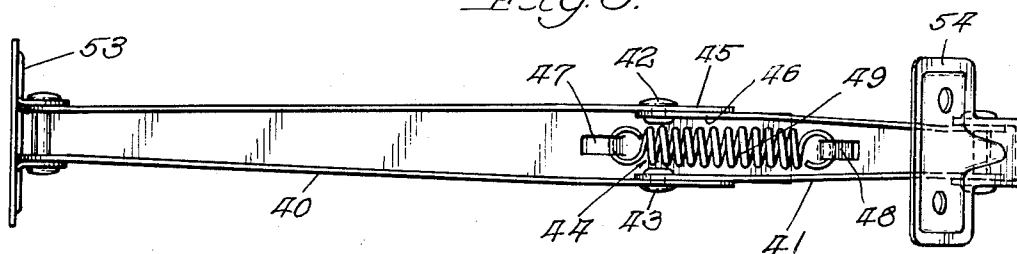


Fig. 6.

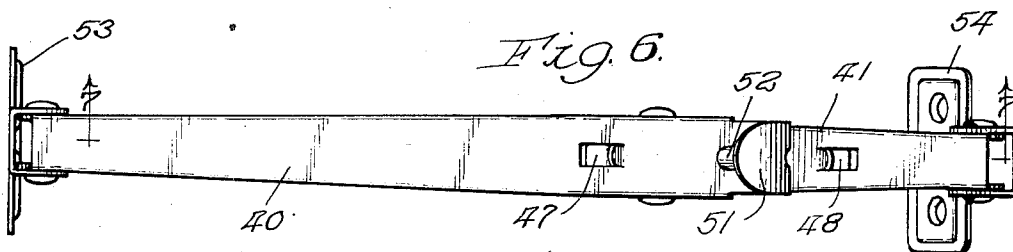
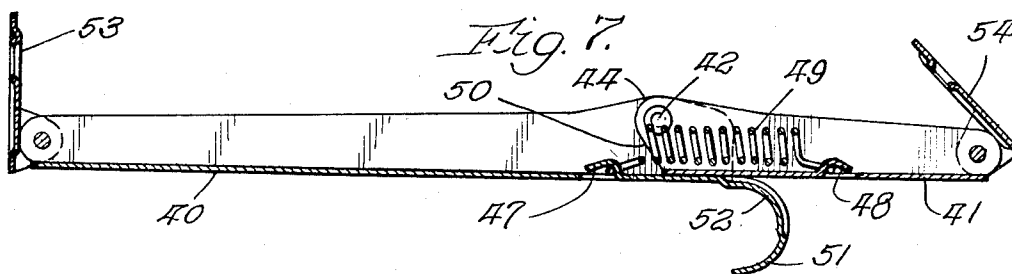


Fig. 7.



Inventor:
Ferdinand N. Serto,
By Schneider, Högren,
Brady, Wegner, & Luby.

2,835,522

HINGED SUPPORT

Ferdinand N. Serto, Kenosha, Wis., assignor to Marshall, Serto & Company, a partnership

Application July 28, 1955, Serial No. 524,851

2 Claims. (Cl. 287—99)

This invention relates to a hinged support, and more particularly to a protective finger grip positioned on such a support to shield a person's fingers from accidental injury when the pivoted hinge sections of the support snap into end to end relation.

The present application is a continuation in part of my co-pending application Serial No. 411,393, filed February 19, 1954, now abandoned.

Hinged supports of the general type shown are constructed of a pair of hinge sections which are pulled into abutting end to end relation by a tension spring. Opposite ends of a hinged support are generally fastened to the frame and to the drop-leaf of a table. When the drop-leaf is raised, the hinge sections automatically snap into alignment in supporting position. Oftentimes the hinge sections are not pulled completely into supporting position by the tension spring, leaving a dangerous open joint between the hinge sections. Slight finger pressure applied by a person on either hinge section of the support will cause the tension spring to snap the hinge sections into end to end supporting position. Frequently fingers are badly pinched in the hinge joint between the hinge sections during the movement.

The primary object of the present invention is to provide a new and improved hinged support for a drop-leaf table or the like.

Another object is to provide a hinged support having a protective finger grip which has a portion positioned to shield the hinge joint between the hinge sections so that the fingers of a person will not be pinched in the hinge joint during movement to supporting or extended position.

A further object is to provide a finger engaging portion secured to the hinged support to facilitate breaking the hinge sections from their end to end supporting position.

The invention is illustrated in the preferred embodiment in the accompanying drawings, in which:

Fig. 1 is a fragmentary side elevational view, partly in section, showing the hinged support in supporting position upon a drop-leaf table;

Fig. 2, a bottom plan view of the hinged support;

Fig. 3, a top plan view of the hinged support;

Fig. 4, a side elevational view of a modified form of the hinged support;

Fig. 5, a bottom plan view of the modification shown in Fig. 4;

Fig. 6, a top plan view of the modification shown in Fig. 4; and

Fig. 7, a sectional view of the modification shown in Fig. 4 and taken as indicated on line 7—7 of Fig. 6.

In the embodiment illustrated in Figs. 1 through 3, a pair of elongated hinge sections or braces 10 and 11, each preferably having a pair of upstanding ears, 31 and 32, are pivotally joined by a pair of rivets 12 and 13 passing through the respective ears to form a hinge joint, generally designated 34. The hinge sections may be channel shaped, section 10 having a web 14 and a pair of legs or flanges 16 and section 11 having a web 15 and

a pair of legs or flanges 17. Opposed faces of the adjacent ends of sections may be in abutting relation when the sections are turned into aligned end to end supporting or extended position, as seen at 33.

Brackets 18 and 19 are pivoted on the free ends of the hinged support by a pair of rivets 22 and 23. Bracket 19 secures an end of the hinged support to a frame 20 of a table, and bracket 18 secures the opposite end of the hinged support to a drop-leaf 21 of the table. The hinged support is conveniently pivoted out of the way, as seen in dotted outline in Fig. 1, when the drop-leaf is lowered to its suspended position.

A pair of hook-members 24 and 25 may be punched inwardly of the support, one in each hinge section, so that their open ends face outwardly of the pivoted ears 31 and 32. A tension spring 26 is attached at its opposite ends to the hook-members 24 and 25. When the hinged support is broken from its supporting position to collapsed position, as seen in dotted outline in Fig. 1, the spring 26 is almost under no tension. As the hinge sections 10 and 11 are swung toward alignment in abutting end to end position, the spring 26 is stretched, and increasing tension is gradually built up in the spring. Maximum tension is reached when the spring lies along the line defined by the hook-members 24 and 25 and the hinge joint at the rivets 12 and 13. Further movement of the hinge sections toward supporting end to end position causes the spring to pass over center, that is, across the line defined above, and the spring tension snaps the opposing faces of the hinge section into abutment with each other, as at 33. It is during this final rapid movement to extended position that the opening of the hinge joint 34 closes and a person's fingers may be badly pinched. To eliminate this possibility of accident, a protective finger unit may be secured to one of the hinge sections, herein to hinge section 10, to provide a shield for the hinge joint 34.

The protective finger unit shown in Figs. 1, 2 and 3 is preferably made of sheet metal and may include a base portion 27 extending over and positioned against the outer side of the hinge section 10. The base portion 27 has a pair of integral flange portions 28 extending generally normal to the base portion 27 and bent into gripping engagement with the legs of the channel-shaped hinge section 10 to maintain the base portion 27 in fixed position on the hinge section 10. A flat arm portion 29 is fixed to the base portion 27 and extends along the outer side of the hinge section 10 approximately to its pivoted end.

An arcuate finger-gripping portion 30, preferably integral with the arm 29, extends outwardly of the hinge section 10 and over the opposed abutting ends of the hinge sections to provide a means for grasping and breaking the hinge sections from their end to end supporting position against the tension of the spring 26. As can be seen in Fig. 1, the finger-gripping portion 30 and the arm portion 29 cooperate to shield a person's fingers from the hinge joint 34 as the hinge sections snap into abutting relationship.

It is understood that the protective finger unit may be secured to one of the hinge sections by a rivet, weld, machine screw or other means, and that the finger-gripping portion 30 may take some other shape than the arcuate finger grip shown.

A modified form of the invention is shown in Figs. 4 through 7, and in this modification, the hinged support is formed from a pair of preferably channel-shaped hinge sections, generally designated 40 and 41, which are joined by a pair of rivets, 42 and 43, to form a hinge joint 44. In order to facilitate the assembly of the hinge sections of the hinged support, an end portion 45 of the outer hinge section 40 may be made slightly larger than an

adjacent end portion 46 of hinge section 41 so that the end portion 46 may be nestingly received within the end portion 45. Thus the adjacent faces of the webs of the respective end portions 45 and 46 of each of the channel-shaped hinge sections 40 and 41 will rest in abutting relation with each other when the hinged support is in extended position.

As in the embodiment illustrated in Figs. 1, 2 and 3, a pair of hook-members or detents, 47 and 48, may be punched inwardly of the hinged support, one in each hinge section in such a manner as to form a convenient mode of attachment for opposite ends of a tension spring 49. As shown in Fig. 7, it is apparent from the position of the spring 49 and rivets 42 and 43, that the spring 49 pulls the hinge sections, 40 and 41, into abutting relation in extended or supporting position after passing over center in much the same manner as previously described in connection with the first embodiment of the hinged support.

As is shown in Fig. 7, the end portion 46 of the hinge section 41 preferably has a cut-away portion at 50 to enable the two hinge sections to be swung into alignment in supporting position so that a close fit is made between adjacent portions of the web of each of the hinge sections 40 and 41.

In the modification shown in Figs. 4 through 7, provision is also made for shielding the hinge joint 44 and for facilitating the breaking of the hinged support from extended or supporting position. As herein shown, a protective finger grip 51 is provided and is preferably formed integrally with the end portion 45 of the outer hinge section 40. A strengthening rib 52 may be impressed into the central portion of the finger grip 51 to add rigidity to the structure. When the hinged support is moved toward extended position, the finger grip 51 extends into a position of overlapping relation with the hinge section 41 to form a protective shield for the hinge joint as it snaps closed. It is equally clear that a similar finger grip could be offset downwardly from the hinge section 41 to perform a similar function without departing from the spirit or scope of the present invention.

As in the first embodiment, the free ends of the hinged support are each provided with a bracket, 53 and 54, which are pivotally secured to their respective hinge sections in a well-known manner to adapt the hinged support for attachment to a drop-leaf table.

The foregoing detailed description is given for clearness of understanding only and no unnecessary limitations should be understood therefrom, for some modifications will be obvious to those skilled in the art.

I claim:

1. A hinged support, comprising: a pair of channel-shaped hinge sections each having a central web and a pair of upstanding flanges, corresponding adjacent flanges at the adjacent ends of the hinge sections being swingably connected above the central webs to form a hinge joint, said hinge joint permitting swinging movement of the hinge sections between collapsed position and extended position in which the hinge sections form a continuous

channel across the hinge joint and lie in substantially a straight line; a tension spring positioned between the flanges and adjacent the central webs of the pair of hinge sections in extended position, said spring having an end secured to each of the hinge sections so that movement of said hinge sections toward extended position will cause the tension spring to pass over center with respect to the hinge joint and will snap said hinge sections into said extended position; and a finger grip fixedly secured to the hinged end of one of the sections adjacent the central web thereof and extending into a position of overlapping relation with the central web of the other hinge section when the hinged support is in extended position so as to form a protective shield for the hinge joint during movement to extended position.

2. A hinged support, comprising: a pair of channel-shaped hinge sections each having a central web and a pair of upstanding flanges, corresponding adjacent flanges at the adjacent ends of the hinge sections being swingably connected above the central webs to form a hinge joint, said hinge joint permitting swinging movement of the hinge sections between collapsed position and extended position, one of said hinge sections being of a size to nestingly receive the hinged end of the other hinge section in extended position to form a continuous, straight line channel across the hinge joint, the central web at the adjacent end of said one hinge section having an integral terminal portion extending into overlapping relation with the central web of said other hinge section in extended position, said terminal portion being turned downwardly to form a protective finger grip for the hinge joint; and a tension spring positioned between the flanges and adjacent the central webs of the pair of hinge sections in extended position, said spring having an end secured to each of the hinge sections so that movement of said hinge sections toward extended position will cause the tension spring to pass over center with respect to the hinge joint and will snap said hinge sections into said extended position, said protective finger grip affording a protective shield for the hinge joint during movement toward extended position and facilitating breakage of the hinge joint for movement to collapsed position.

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