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2,644,192

DETACHABLE HINGE

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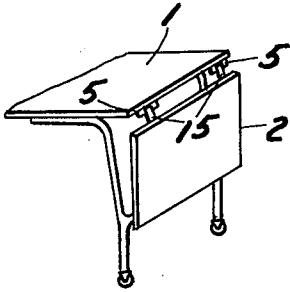


FIG. 1

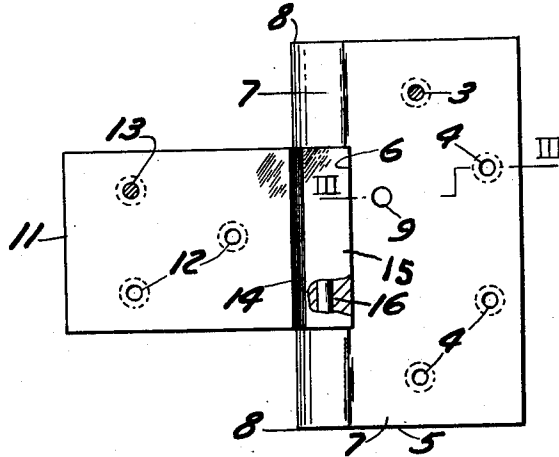


FIG. 2

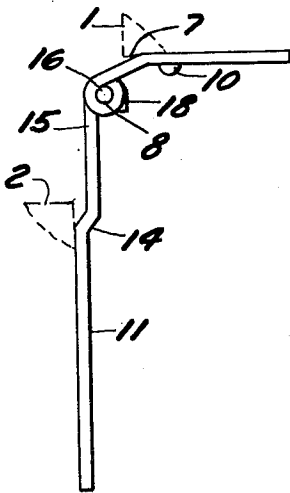


FIG. 5

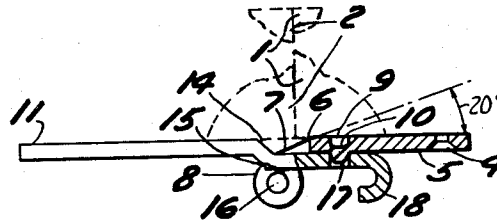


FIG. 3

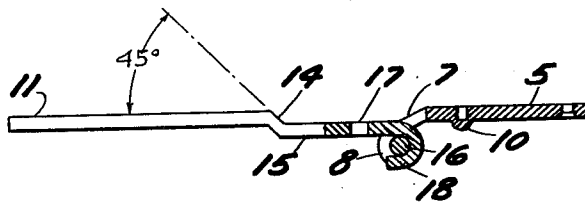


FIG. 4

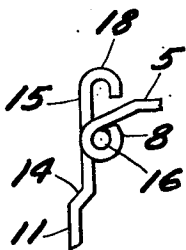


FIG. 6

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DETACHABLE HINGE

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This invention relates to a detachable hinge. More particularly, it relates to a two piece detachable hinge adapted for a drop leaf of a table in which the leaf may be removed from the table, suspended on the table or rigidly held in alignment as an extension for the top of the table.

It is an object of this invention to produce a simple, efficient, effective and economic detachable hinge in which its two pieces may be detached, hooked together, or locked in a rigid position with respect to each other.

Generally speaking, the detachable hinge of this invention comprises two leaves, one of which is provided with a first flat portion and the other of which is provided with two offset parallel second and third flat portions. The former leaf and its first flat portion is provided along one edge thereof with a pair of inclines projecting therefrom and terminating in pin retaining eyes with a pintle or pivot pin fastened in said eyes bridging the space or notch formed between said inclines. The other leaf portion comprising the second and third flat portions, has said portions joined together through an inclined offsetting section, and the third of said flat portions terminates remotely from said offset section in an open reversely bent hook for hooking onto the pintle bridging the notch between the eyes on the first flat portion.

For locking the two leaves together, contacting faces of the first and third flat portions may be provided with cooperating locking means, such as a lug and a port, so that a shelf and table top to which the leaves may be attached may be held rigidly in alignment so that one surface is an extension of the other.

The above mentioned and other features and objects of this invention and the manner of attaining them are given more specific disclosure in the following description of an embodiment of this invention taken in conjunction with the accompanying drawing, wherein:

Fig. 1 is a perspective view of a fragment of a typewriter table provided with a drop-leaf shelf extension suspended from an edge of the table top by a pair of the hinges according to the present invention;

Fig. 2 is a top plan view of the two leaves of the hinge of this invention in their co-planar locked position;

Fig. 3 is an end elevation of the leaves shown in Fig. 2 with a portion in section along line III-III of Fig. 2;

Fig. 4 is an end elevation similar to Fig. 3, par-

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tially in section, with the two leaves of the hinge pulled apart into their unlocked position preparatory for the suspended position shown in Fig. 5;

Fig. 5 is an end view of a pair of leaves of the hinge of Fig. 4 as they may be hooked together for a drop-leaf of a table in the position shown in Fig. 1; and

Fig. 6 is a fragmentary showing similar to Fig. 5 of how the leaves of the hinge may be disconnected from each other.

Referring to Fig. 1 the horizontal top 1 of the stand or table may be provided with an extension or drop-leaf portion 2, which are connected together by means of a pair of cooperating leaves. One of these leaves may be attached by means of screws 3 (Fig. 2) to the under side of a table top 1 through apertures or holes 4 in a first flat portion 5. Extending from one of the sides of the first flat portion 5 spaced by a notch 6 is a pair of inclines 7, which inclines 7 terminate in pintle retaining eyes or closed loop portions 8. Axially fastened in the eyes 8 and bridging the space 6 between the inclined projections 7 may be fastened a pintle pin 16.

The other leaf of the hinge assembly comprises a second flat portion 11 provided with apertures or holes 12 for screws 13 for fastening this other leaf to the shelf 2. Along one side of the second flat portion 11 is an inclined offsetting section 14 connecting an adjacent edge of a third flat portion 15 parallel to said second flat portion 11. The third flat portion 15 may terminate remote from the offsetting portion 14 in an open reversely bent hook 18 having a radius adapted to fit over the pintle or pin 16, and having a width corresponding to the width of the notch 6, so that the third flat portion will fit between the inclines 7 extending from the first flat portion 5.

The leaves of both of the hinge portions are anchored to the table top 1 and shelf 2, respectively, so that the offset and inclines extend beyond the edges of the table top 1 and shelf 2 as shown in Fig. 5, whereby the third flat portion of the hinge assembly may easily be hooked over the pin 16 in the manner shown in Fig. 6.

Now if it is desired to raise the shelf 2 in a plane with the table top 1, the shelf is first raised so that the hinge leaves take the position as shown in Fig. 4 and then when the first and second flat portions 5 and 11, respectively, are in substantially the same plane, the shelf 2 is slid toward the table top so that the underside of the third flat portion slides along the top of the pin 16 into the position shown in Figs. 2 and 3.

In order to lock the two leaves of the hinge

in the position shown in Figs. 2 and 3, cooperating means between the under surface of the first flat portion 5 and the upper surface of the third flat portion 15 may be provided, such as partially punching through the first flat portion 5 to form a recess 9 in one side thereof and a lug or projection 10 on the other, which projection 10 fits into a correspondingly sized hole or port 17 punched into the upper surface of the third flat portion 15. This lug and port means are so positioned as to be in alignment when the edges of the table top 1 and shelf 2 abut each other as shown in dotted lines in Fig. 3. Thus, in order to engage or release the lug and port means 10 and 17, the shelf of the table must be lifted slightly so that the edge of the port 17 will cam around the projection 10, which lifting pinches the edges 1 and 2 of the table and shelf slightly.

In the event the shelf and table each have the same thickness and the two leaves of the hinge are made of the same thickness of pack-hardened sheet steel, say $\frac{1}{8}$ of an inch, the offset distance between the second and third flat portions 11 and 15 should be only equal to the thickness of the first flat portion 5. For an average typewriter table of 1" thick boards, $\frac{3}{16}$ " diameter and $\frac{7}{8}$ " long wood screws 3 and 13 would be sufficient to attach a $\frac{1}{8}$ " thick steel hinge of the type described, for a drop-leaf shelf to support the weight of a typewriter or an adding machine. The strength of the hinge resides in the resistance of the pin 16 to the shearing force of the under side of the third flat portion 15.

However, the leaves of the hinge as well as the shelf and table top may be of different thicknesses without departing from the scope of this invention, since these differences in thicknesses may be compensated for by the length of the inclines 7 and offset 14.

While there is described above the principles of this invention in connection with specific apparatus, it is to be clearly understood that this description is made only by way of example and not as a limitation to the scope of this invention.

What is claimed and it is desired to secure by Letters Patent is:

1. A detachable hinge comprising two leaves, one leaf comprising: a first flat portion, two spaced inclines extending outwardly from along one edge of said first portion and terminating in axially aligned cylindrical pin retaining eyes, and a pin fastened in said eyes and bridging the space between said eyes; and the other leaf comprising: second and third parallel flat portions joined by an offsetting portion, said third flat portion terminating in an open reversely bent hook remote from said offsetting portion, said third flat portion and said hook being of a width

sufficient to pass between said eyes and to hook onto said pin.

2. A hinge according to claim 1 wherein each leaf is made of a single piece of sheet material.

3. A detachable hinge comprising two leaves, one leaf comprising: a first flat portion, two spaced inclines extending outwardly from along one edge of said first portion and terminating in axially aligned cylindrical pin retaining eyes, and a pin fastened in said eyes and bridging the space between said eyes; and the other leaf comprising: second and third parallel flat portions joined by an offsetting portion, said third flat portion terminating in an open reversely bent hook, said third flat portion and said hook being of a width sufficient to pass between said eyes and to hook onto said pin, and lug and port means between adjacent surfaces of said first and third portions to prevent said surfaces from sliding relatively to each other when said lug is in said port.

4. A detachable hinge comprising two leaves, one leaf comprising: a first flat portion, two spaced inclines extending outwardly from along one edge of said first portion forming a notch between said inclines, said inclines terminating in axially aligned cylindrical pin retaining eyes, and a pin fastened in said eyes and bridging said notch between said eyes; and the other leaf comprising: second and third parallel flat portions joined by an offsetting portion, said second and third portions being offset with respect to each other a distance corresponding to the thickness of said first flat portion, said third flat portion terminating in an open reversely bent hook remote from said offsetting portion projecting in the same direction as said offset from said second flat portion, said third flat portion and said hook being of a width sufficient to pass between said eyes and to hook onto said pin, and lug and port means between adjacent faces of said first and third portions to prevent said surfaces from sliding relatively to each other when said lug is in said port, said inclines offsetting the axis of said eyes away from said first portion a distance equal to the distance the axis of said hook is offset from said second portion, so that when said leaves are connected and said lug is in said port, said first and second portions are in the same plane, and said lug and port means prevent them from being pulled apart.

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