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2,484,581

HINGE

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Fig. 1.

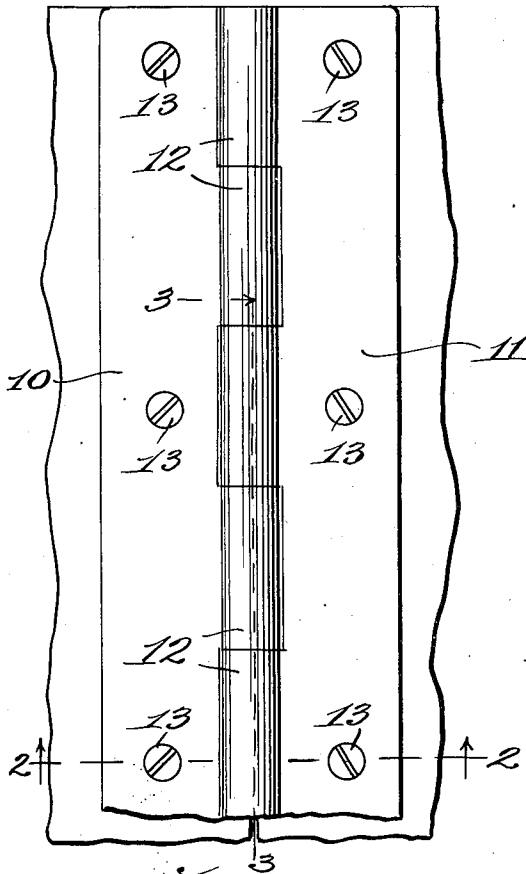


Fig. 4.

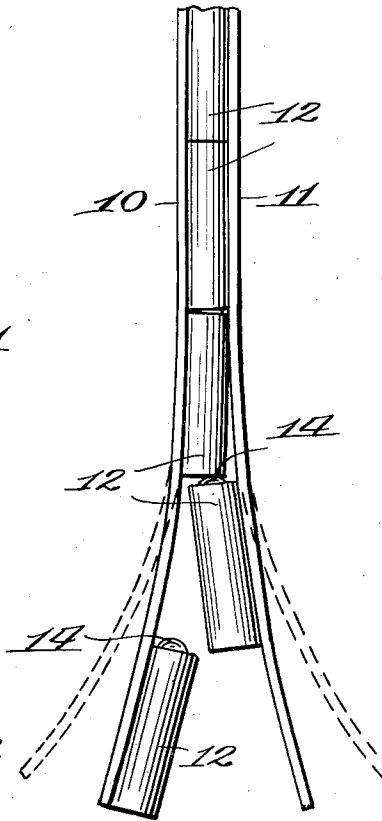


Fig. 2.

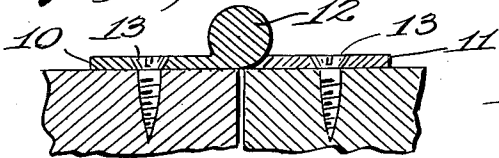


Fig. 5.

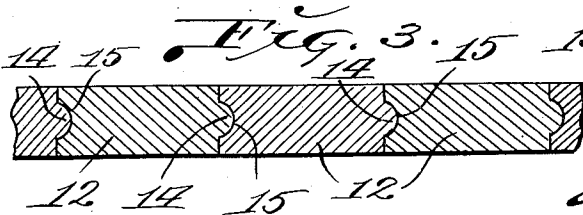


Fig. 6.



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HINGE

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1 Claim. (Cl. 16-171)

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My invention relates to hinges and has for its principal object to provide a hinge wherein the knuckles, which are formed integral with the plates or wings, are in the form of solid cylinders, with their ends provided with interengaging studs and recesses, thus eliminating the conventional separately formed removable hinge pins.

A further object of my invention is to provide a hinge composed of only two parts, practically identical in structure with the plates or wings composed of thin flexible material in order that the parts may be readily assembled or taken apart.

A further object of my invention is to provide a hinge structure which is particularly applicable for use wherever an elongated hinge is required, for instance, the lids or covers for pianos, book cases, storage chests and the like.

With the foregoing and other objects in view, my invention consists in certain novel features of construction and arrangement of parts which will be hereinafter more fully described and claimed and illustrated in the accompanying drawings in which:

Fig. 1 is a plan view of a portion of an elongated hinge constructed in accordance with my invention.

Fig. 2 is a cross section taken on the line 2-2 of Fig. 1.

Fig. 3 is a longitudinal section taken on the line 3-3 of Fig. 1.

Fig. 4 is an edge view showing the portion of the parts of the hinge while being assembled or taken apart.

Fig. 5 is a section similar to Fig. 3 and showing a modified form of the joint between the hinge knuckles.

Fig. 6 is a longitudinal section showing a modified form of the hinge knuckles.

Referring by numerals to the accompanying drawings which illustrate a preferred embodiment of my invention, 10 and 11 designate the plates or wings of the hinge, which are in the form of elongated strips of thin flexible material and formed integral with the adjacent edges of said plates are longitudinally disposed knuckles 12, cylindrical in form and spaced equal distance apart so that the knuckles on one strip are positioned between the knuckles of the other strip when the parts of the hinge are assembled.

Plates 10 and 11 are perforated at suitable intervals for the reception of screws 13 which secure said plates to the structure on which the hinge is used.

Each knuckle is provided on one end with a

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small convex stud 14 and on the other end with a concave recess or depression 15, which receives the companion stud on the end of the next adjacent knuckle when the parts of the hinges are assembled.

In Fig. 5 I have shown the knuckles provided on one end with a low conical stud 16 and on the opposite end with a shallow conical recess 17.

To assemble the hinge, the two plates are positioned with their flat faces parallel with each other, after which said plates are spread apart at one end, so as to flex those portions of the plates between the knuckles at the opposite end and thereby permit the knuckles to be placed between each other, with the studs 14 engaging in the recesses 15.

After the first two knuckles are connected, the flexing of the plates away from each other continues throughout the length of the hinge and such flexing enables the knuckles to be manipulated into position between each other with the studs 14 in recesses 15, thus providing the axis upon which the plates swing.

The foregoing operations can only be accomplished when the plates are substantially parallel with each other, as shown in the upper portion of Fig. 4, for when said plates are swung outward from the axis, into the same plane as illustrated in Fig. 1, it is impossible to flex said plates to such a degree as to unseat the studs from the recesses.

When the plates are flexed away from each other as shown in the lower portion of Fig. 4, the knuckles are shifted into oppositely disposed angular conditions, and the ends of the knuckles are separated to such a degree as to enable the studs 14 to be withdrawn from the recesses 15, thus permitting the two parts of the hinge to be readily connected and disconnected.

The parts of the hinge may be made from any suitable material preferably any of the conventional plastics now on the market, for such material can be readily molded, has ample strength and durability, also the desired degree of resiliency.

In the modified construction illustrated in Fig. 6 both ends of the knuckles of one plate are provided with studs such as 14^a and the ends of the knuckles on the other plate are provided with recesses 15^a.

Thus it will be seen that I have provided a hinge which is simple in structure, inexpensive of manufacture and very effective in performing the functions for which it is intended.

It will be understood that minor changes in the size, form and construction of the various parts

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of my improved hinge, may be made and substituted for these herein shown and described without departing from the spirit of the invention, the scope of which is set forth in the appended claim.

I claim as my invention:

A hinge comprising a pair of flat plates of thin, resilient material, which plates, when disposed parallel with each other, are capable of being flexed away from each other, each plate being provided with a plurality of screw holes, a series of solid cylindrical knuckles formed integral with one edge of each plate, and disposed above same so that when the knuckles are longitudinally aligned their axes are disposed above the upper surfaces of said plates, the two sets of knuckles being staggered, the knuckles of one plate being positioned between the knuckles of the other plate with the ends of the knuckles abutting each other and said abutting ends being provided with inter-engaging studs and recesses.

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