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C. R. MELDRIM

1,843,170

WIRE HINGE

Filed Oct. 29, 1927

Fig. 1.

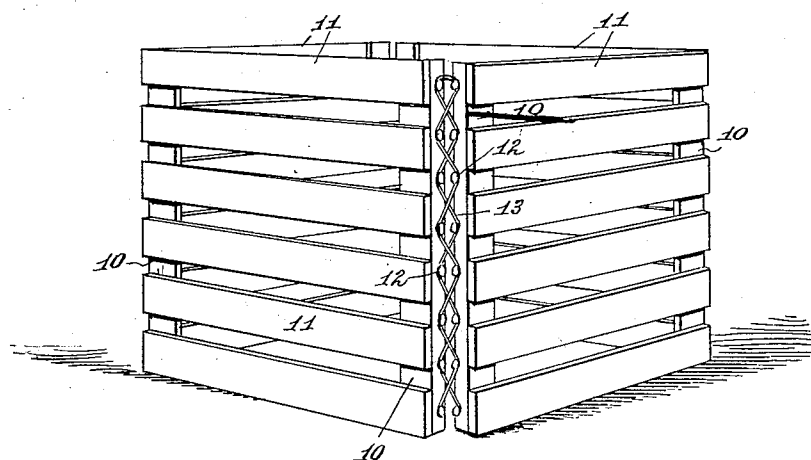


Fig. 2.

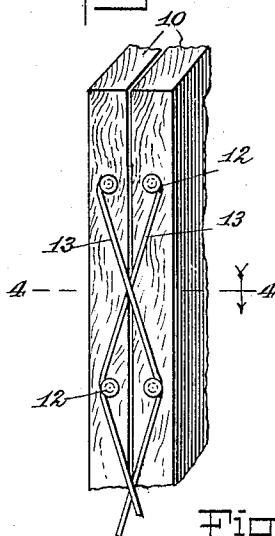


Fig. 6.

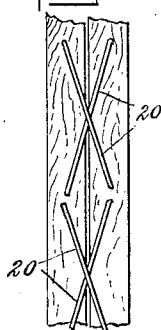


Fig. 3.

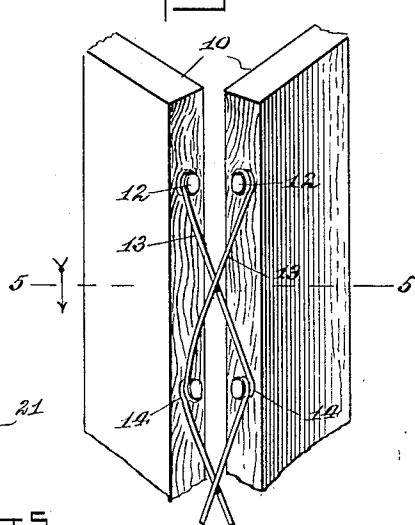


Fig. 7.

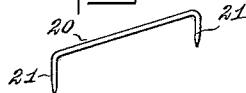


Fig. 4.

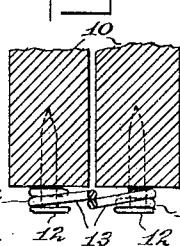
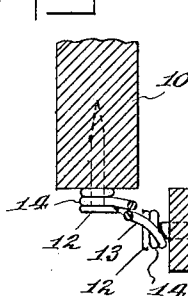


Fig. 5.



WITNESSES
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WIRE HINGE

Application filed October 29, 1927. Serial No. 229,759.

The present invention is concerned with the provision of a hinge which may have a wide range of utility, but which is peculiarly suitable for the purpose of connecting the sections of collapsible crates and the like, such for instance as the knockdown crates which are commonly used for shipping fruits, vegetables and similar materials.

An object of the invention is to provide a hinge of this character which will be extremely rugged, durable and efficient in use, and which will outlast the crate to which it is connected. The hinge, in accordance with the present invention, is so designed that repeated bendings of the wires of which it is formed, will not snap the wires. Thus, the crate may be shipped and re-shipped, either in opened or knocked-down position a number of times without losing its efficiency.

Another object of the invention is to provide a hinge which is well suited to the requirements of economical manufacture and application; the hinge being readily applicable to the adjacent ends of two crate sections or other members to be hingedly joined together and readily replaceable in the event that any breakage should accidentally occur to the hinge due to the rough treatment accorded the crate.

Another feature of the invention is that the cheapness of a hinge is such, that when desired, a crate may be discarded after one use without any great monetary loss to the shipper.

With the above noted and other objects in view, the invention consists in certain novel features of construction and combinations and arrangements of parts, as will be more fully hereinafter set forth and pointed out in the claim. The invention may be more fully understood from the following description in connection with the accompanying drawings, wherein—

Fig. 1 is a perspective view of a crate, the sections of which are hinged together in accordance with the present invention.

Fig. 2 is a perspective detail illustrating two hinged sections of the crate collapsed.

Fig. 3 is a similar view showing the sections swung apart.

Figs. 4 and 5 are cross sectional details on the lines 4—4 and 5—5 respectively of Figs. 2 and 3.

Fig. 6 is a view similar to Fig. 2 but illustrating a modification.

Fig. 7 is a perspective view of one of the staples used in the construction shown in Fig. 6.

In Figs. 1 to 5 of the drawings I have illustrated a crate, which, except for the hinges, may be of more or less conventional construction. Each side of the crate is formed of end posts 10 connected by spaced cross slats 11; the end posts of adjacent sections being connected by my improved hinge.

As best seen in Figs. 2 and 3, short nails, tacks, or other headed securing devices 12 are driven into the edge faces of the posts 10 at equal distances apart. A single length of relatively light flexible wire is then laced around the projecting ends of the members 12 between the heads thereof and the edge faces of the posts 10. In lacing the wire, it is preferably looped once under the head of each securing device 12 and then crossed over to the subjacent or superjacent securing device on the opposite post where it is again looped and passed diagonally downwardly or upwardly as the case may be to another securing device. In the complete hinge there are a number of crossed diagonal runs of wire 13, the ends of each diagonal run being connected by the loops 14 to securing devices on adjacent posts. Thus, when the crate is swung from the position of Fig. 2 to the position of Fig. 3, the bending of the crossed diagonal runs of wire provides a hinged action, and due to the fact that there is a combination bend and twist taken substantially throughout the entire length of each run 13, there is practically no danger of snapping a wire even after repeated bending. It will be noted that the hinge prevents any direct transverse bending of a single wire strand and that the wire is sufficiently light and flexible to permit ready manual bending of the wire when two adjacent sides of the crate are swung from the position of Fig. 3 to that of Fig. 2 or vice versa.

The securing devices 12 serve no other

function except anchorages for the ends of the diagonal wire runs, and other forms of anchorages might be used if desired. As a matter of fact, instead of using a continuous length of wire laced back and forth as illustrated, I might use a number of shorter lengths providing diagonal runs with their ends anchored to adjacent crate sections.

In Figures 6 and 7 I have illustrated a slight modification of the invention, in which cross wire staples are used, and the same result produced. The staples include relatively long intermediate portions 20 and relatively short legs 21. The legs of the staples are driven into the two members to be hingedly connected. The intermediate portion of one staple crosses the intermediate portion of another, and this arrangement produces the desired spiral twisting action when the members are hinged relatively to each other.

Obviously, various changes and alterations might be made in the general form and arrangements of the parts described without departing from the invention. Hence I do not wish to limit myself to the details set forth, but shall consider myself at liberty to make such changes and alterations as fairly fall within the spirit and scope of the appended claim.

I claim:

A hinge for hingedly mounting two adjacent support members which includes a pair of wires having one end of each of said wires anchored in the edge portion of said members at opposite points and the other end thereof anchored in the edge portion of the other of said members at opposite points longitudinally displaced on said members relative to said first named anchorage point, whereby said wires cross and motion imparted to one of said support members relative to the other produces a torsional twist in said wires for substantially the entire length thereof between said anchorage points.

Signed at Bayport, in the county of Suffolk and State of New York, this 27th day of October, A. D. 1927.

CHARLES R. MELDRIM.

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