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HINGE PACKAGE

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My invention relates to a hinge package and the method of forming the same.

Considerable difficulty has been experienced in the packaging of hinges according to prior methods. Hinges are usually packed in the cardboard, or the like box, side by side or upon one another in separated fashion. In a hinge package of this character, the hinges tend to shift in all directions, making it necessary to use thick-walled containers which necessarily add to the cost of the article from both production and transportation standpoints. Also, in prior hinge packages, the hinges have been packed in such a way that the smaller free ends of the hinges can engage the wall of the container; and it has been found that, even though heavy-walled containers are employed, the endwise shifting of the hinges breaks down the container walls and makes the container unfit for further use in shipment and storage. Attempts have been made to avoid this objection by placing strips of metal over and along the smaller ends of the hinge leaves, but this adds considerable to the hinge cost due to the labor and material involved.

Furthermore, when the hinges are free to shift upon each other, there is a tendency to scratch or otherwise mar the same. Also in packaging hinges according to the prior methods, there is considerable lost space in the packaging requiring a larger container than necessary, which naturally increases packaging and shipping costs. Attempts have been made to take care of these difficulties, and particularly in packing polished or specially-surfaced hinges, by wrapping the same in paper or the like; but this is quite objectionable from increased labor and wasted space standpoints.

One of the objects of my invention is to provide an improved method of packaging hinges by which the foregoing objectionable features are eliminated.

Another object is to provide a hinge package which is quite simple, which may be formed at a reduced cost, which facilitates the packaging, shipping and storing of the hinges, and which avoids all of the objections hereinabove stated.

A further object is to provide a hinge package in which the hinges are so compactly arranged that a greater number of hinges may be packed in a smaller container; in which there is practically no lost space, the entire container space being filled with a substantially solid mass of hinges; and in which the hinges are packed in such an interlocked manner that they are supported by each other against relative shift move-

ment, and the smaller ends of the hinge leaves are shielded from the walls of the container.

A more specific object is to provide a hinge package wherein the hinges are so arranged that the pintle portions only thereof engage the wall of the container side walls, each hinge being so arranged that its leaves embrace the adjacent leaf of each of a pair of hinges having their pintle portions disposed along a container wall opposite that along which the pintle portion of the first-mentioned hinge is disposed, so that each hinge leaf is disposed between the hinge leaves of another hinge with the free ends of its hinge leaves enclosed in abutting relation to a hinge pintle.

Additional objects are to provide a hinge package in which the hinges reinforce the container, permitting the use of a thin-walled, light weight and inexpensive container; to reduce packaging and handling costs; and to provide a package wherein the hinges will not be injured during packaging, shipping or other handling thereof.

Other objects and advantages will become apparent as this description progresses and by reference to the drawing, wherein,—

Figure 1 is a top plan view of a hinge container, cover removed, showing hinges packed in accordance with my invention;

Fig. 2 is a section taken on the line 2—2 of Fig. 1 and showing the container cover in place;

Fig. 3 is a section taken substantially on line 3—3 of Fig. 1 and showing the container cover in place; and

Fig. 4 is a plan view of a plurality of hinges, without container, illustrating the manner of interlocking the same for the packaging thereof.

The complete hinge package includes a rectangularly-shaped container 10 which may be formed of thin-walled and inexpensive cardboard, or the like, material. After the hinges have been packed in the container, a cover 11 formed of material similar to the container 10, is placed thereover to complete the package. The size and shape of the container will depend upon the size and number of hinges to be packed therein. The container 10 is, preferably, of a dimension lengthwise of the hinges, equal to the length of a hinge plus the diameter of its pintle portion. The opposite dimension is sufficient to receive a predetermined number of hinges when they are packed in as a substantially solid mass in accordance with my invention.

Each hinge may be of conventional form including a pair of leaves 12, 13, connected in the usual manner by a pintle portion 14, including a hinge pin 15. The hinge leaves taper some-

what uniformly from the pintle portion 14 to a somewhat rounded free end portion 16; but it is to be understood that the shape of the hinge leaf, other than that it normally has a free end portion, is not material to this invention.

Twenty-four hinges are included in the package shown in the drawing, but it is to be understood that the number of hinges may be varied without departing from this invention. In packing the hinges, they are all arranged so that their pintle portions 14 are the only end parts thereof that engage the side walls 17 and 18 of the container 10. The free ends of the hinge leaves, except the outermost leaves of the extreme end hinges, are all enclosed in such a way that such free end portions substantially abut against, and are shielded by, the inner pintle portions 14 of the hinges so that the free ends cannot engage the side walls 17 and 18 of the container.

To the foregoing end, the hinge leaves 12 and 13 of all the hinges are interwoven or interlocked in the manner illustrated at Fig. 4. More particularly, starting with the end hinge A, which has its pintle portion 14 disposed toward the right hand container wall 17, its leaves 12 and 13 are opened to receive the leaf 12 of the hinge B which has its pintle portion 14 disposed against the left hand container wall 18. The leaves 12 and 13 of the hinge B are opened sufficiently to receive the leaf spring 13 of the hinge A and also the leaf 12 of the hinge C, which has its pintle portion 14 disposed toward the container wall 17 similar to the hinge A. This packing arrangement is followed with respect to all of the hinges so that in the final pack each hinge which has its pintle portion abutting the container wall 18 will have its leaves enclosing or receiving therebetween the adjacent leaves of the adjacent hinges having their pintle portions abutting the opposite container wall 17. In this way, the hinge leaves of each hinge enclose adjacent leaves of two other hinges in such a way that the free ends of the enclosed leaves will be stopped against endwise movement by the pintle portions 14 of the enclosing hinge. Since all of the hinge leaves are of substantially the same dimensions, the free ends of the hinge leaves in the final hinge pack will substantially abut the inner surfaces of the hinge pintle portions 14 and be completely shielded against engagement with the side wall of the box of the container, as clearly shown in Fig. 1.

It is quite obvious that, in packing the hinges as above described, and by reference to the drawing, the hinges constitute a substantially solid metal mass in final packed form. Only blunt (pintle) end portions of the hinges engage the side wall of the box, and the possibility of breaking down the box, as set forth in connection with prior packaging methods, is practically eliminated. The hinges are not free to move relative to each other, and the arrangement insures such solidity in the pack as to tend to reinforce the container so that inexpensive containers may be used quite efficiently. Packaging, transportation and storage of hinges are materially facilitated from both time and cost standpoints. A very stable hinge package is provided which eliminates the necessity of separate hinge wrapping to avoid marring, and the like.

It is to be understood that while I have shown and described only one specific embodiment of my invention, changes in details and arrangement may be resorted to within the scope of the claims that follow.

I claim:

1. A hinge package which consists of a group of hinges having their pintle portions closely adjacent each other, another group of hinges having their pintle portions oppositely disposed with respect to the pintle portions of the first mentioned group, and the leaves of one group of hinges being interposed between the leaves of the other group so that the leaves of one group of hinges are confined between the hinge leaves of the other group, and means extending exteriorly over said hinges and holding them in their said packaged relation.
2. A hinge package comprising a container and a plurality of groups of hinges disposed side by side in said container, the leaves of one of the hinges of one group being disposed between the leaves of two hinges of another group, said container snugly engaging the pintle portions of the hinges of said groups and holding said leaves in the relationship specified.
3. A hinge package comprising a plurality of groups of hinges disposed side by side in substantially parallel relation, the leaves of the respective hinges of one of said groups being disposed between the leaves of two hinges of another of said groups, and means passing around said groups engaging the pintle portions thereof and holding said leaves snugly together in the relationship specified.
4. A hinge package comprising a container of thin material, a group of hinges with their pintle portions disposed in juxtaposition and adjacent one of the side walls of the container, another group of hinges similarly arranged but with their pintle portions disposed oppositely with respect to the first-mentioned hinges and adjacent the other side wall of the container, said hinges being arranged in a substantially solid mass formation with the leaves of one of the hinges of one group interlocked with the leaves of the hinges of the other group whereby the leaves of each of said hinges are disposed between the leaves of other hinges with the free end portions of the hinge leaves substantially abutting the pintle portions of the enclosing hinges so that endwise movement of the hinges relative to each other is prevented.
5. A hinge package comprising a container of sufficient size and shape to receive a plurality of hinges in substantially solid mass formation, and hinges disposed in said container, said hinges being arranged in two groups with one group having its pintle portions disposed along one wall of the container and the other group having its pintle portions disposed along an opposite wall of the container, and said hinges having their leaves so interlocked that the leaves of each hinge of one group embraces a leaf of each of two adjacent hinges of the other group with the free ends of the embraced leaves abutting the inner pintle portion of the embracing hinge.
6. A hinge package comprising a container of general rectangular shape and of sufficient dimension in one direction to receive a predetermined number of hinges and of a dimension in the opposite direction approximately equal to the length of a hinge plus the diameter of its pintle portion, hinges disposed in said container with their leaves interfitted and their pintle portions only engageable with the side walls of the container, said hinges being so arranged that the leaves of each hinge receive therebetween a leaf of each of two separate and closely adjacent hinges having their pintle portions disposed oppo-

sitely to said enclosing hinge, the leaves of all hinges being disposed in substantially parallel planes so that the free ends of the enclosed hinge leaves abut the inner pintle portion of the enclosing hinge.

5 7. A hinge package comprising a container having side walls and a bottom, and a plurality of hinges disposed in said container with one of the edges of their leaves resting on said bottom
10 wall and with their pintle portions engaging said side walls, the leaves of said hinges being so interlocked that all leaves, except the outer ones of the end hinges of the pack, are completely enclosed by other hinges and they positively abut pintle
15 portions of respectively opposed hinges to prevent relative endwise shift movement between said hinges.

8. A hinge package comprising a container having side walls and a bottom, and a plurality of
20 hinges disposed in said container with their pintle portions engaging said side walls, the leaves of said hinges being so interlocked that all leaves except the outer leaves of the outermost hinges, are completely enclosed by other hinges and they
25 positively abut pintle portions of respectively opposed hinges to prevent relative endwise shift movement between said hinges.

9. A hinge package which consists of a group of hinges having their pintle portions closely adjacent each other, another group of hinges having their pintle portions oppositely disposed with respect to the pintle portions of the first mentioned
5 group, and the leaves of one group of hinges being interposed between the leaves of the other group so that the leaves of one group of hinges are confined between the hinge leaves of the other group, and means extending exteriorly and completely
10 enclosing said hinges, said means being of such size and construction as to hold said hinges in the relationship specified without permitting any substantial shift movement of said hinges relatively to each other.

10. A hinge package comprising a container having opposed walls, a group of hinges disposed in said container with the pintle portions thereof in substantially snug engagement with one of said walls, and a second group of hinges disposed in
15 said container with the pintle portions thereof adapted to be snugly engaged by the other of said walls, the adjacent leaves of adjacent hinges of one of said groups of hinges being disposed between the leaves of the respective hinges of the
20 other group of said groups of hinges.

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25