Jan. 31, 1939. W. C. KRONQUEST 2,145,358

CORRUGATED FASTENER PACKAGE

Filed Jan. 22, 1937 2 Sheets-Sheet 1

Fig. 1

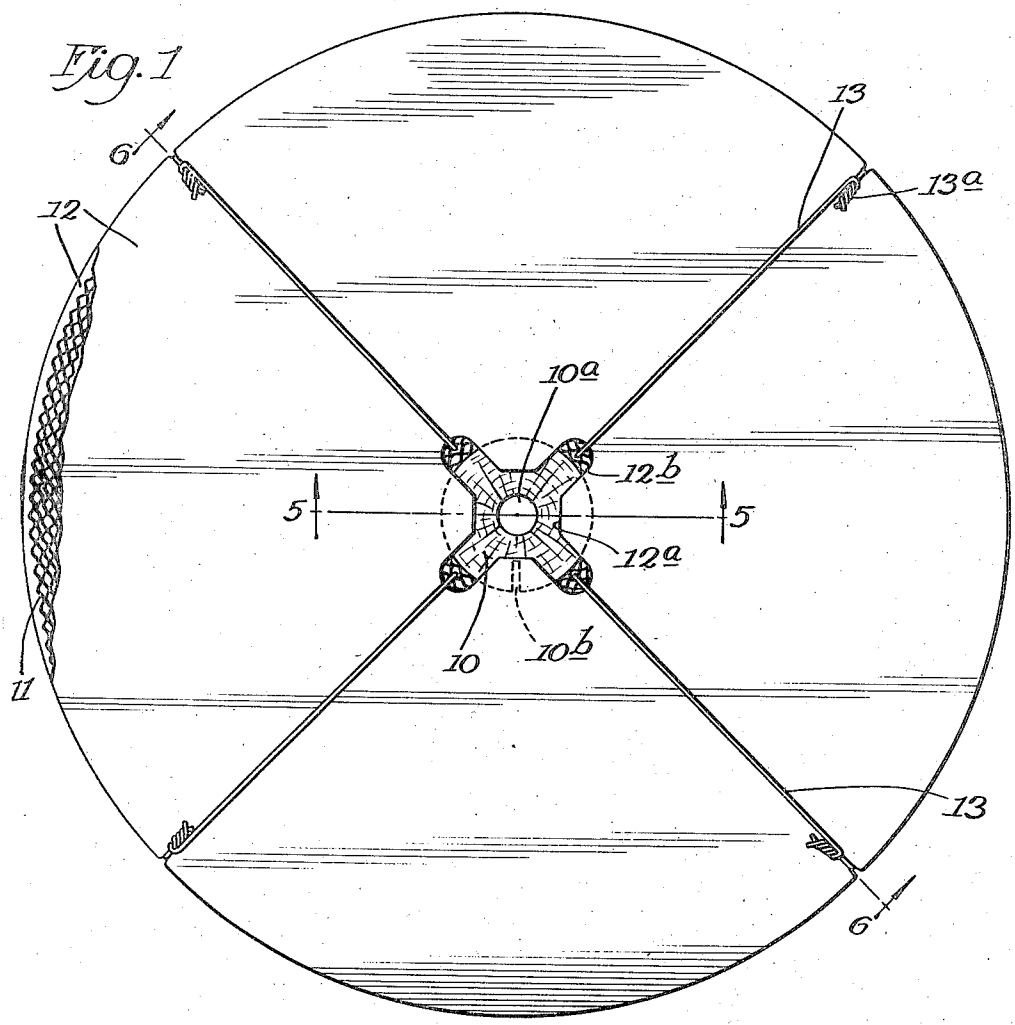
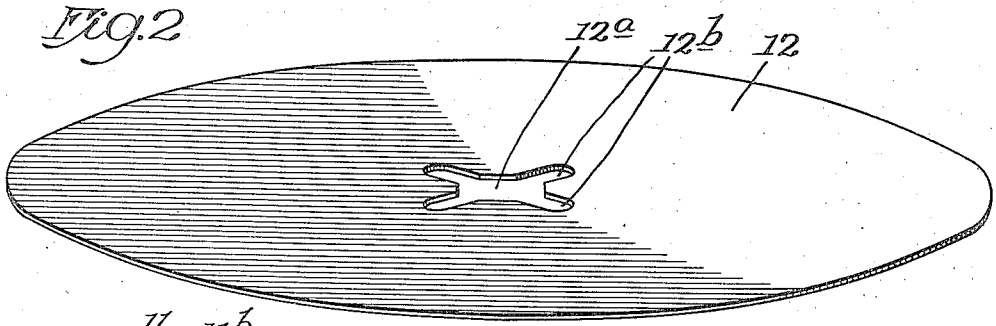


Fig. 2



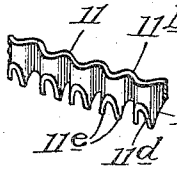


Fig. 3

Inventor:
William C. Kronquest
By Davis, Lindsey, Smith & Shorts, Attys

Jan. 31, 1939. W. C. KRONQUEST 2,145,358

CORRUGATED FASTENER PACKAGE

Filed Jan. 22, 1937 2 Sheets-Sheet 2

Fig. 4

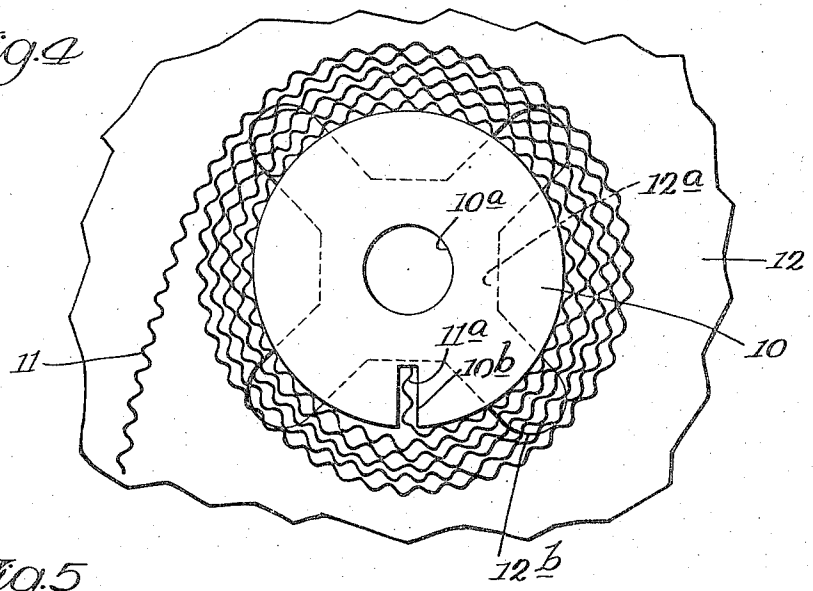


Fig. 5

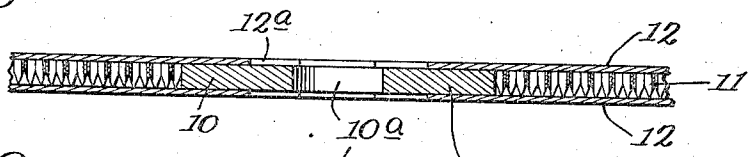


Fig. 6

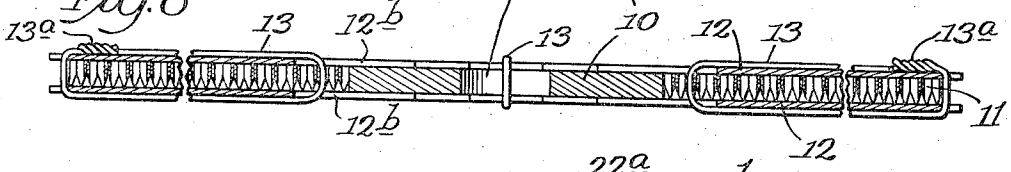


Fig. 7

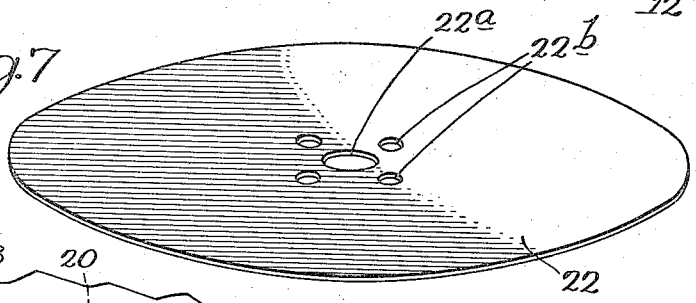
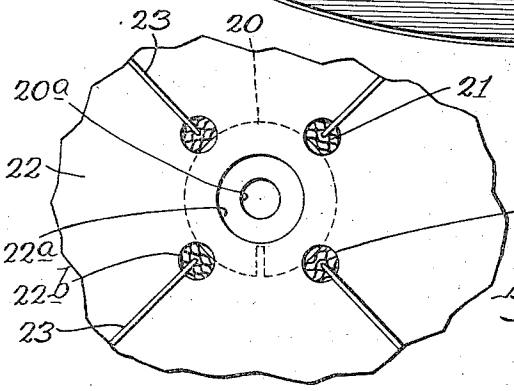


Fig. 8



Inventor:
William C. Kronquest
By Davis, Lindsey, Smith
& Shorts,
Attys.

Patented Jan. 31, 1939 2,145,358

UNITED STATES PATENT OFFICE

2,145,358

CORRUGATED FASTENER PACKAGE

William C. Kronquest, Chicago, Ill., assignor to Acme Steel Company, Chicago, Ill., a corporation of Illinois

Application January 22, 1937, Serial No. 121,852

6 Claims. (Cl. 206—59)

This invention relates to improvements in corrugated fastener packages and its purpose is to provide simple and effective means for forming a package of an elongated, corrugated metal strip which is adapted to be wound in spiral form and from which relatively short sections may be cut off, as desired, to serve as fasteners to be driven into boards or the like to form joints along their abutting edges. The corrugated metal from which these comparatively short corrugated fasteners are cut off is ordinarily produced in strips of great length and it is desirable to wind a length of this material in spiral form so that a compact package may be formed which is capable of being rotated to permit the unwinding of the strip from the outer portion of the spiral as it is used. The principal object of the present invention is to provide an improved package comprising a central hub about which the elongated metal strip is wound in combination with means for supporting the lateral sides of the winding and for preventing displacement of the hub during the shipment of the package. Another object of the invention is to provide an improved package comprising a central hub having wound thereon a spiral winding of corrugated metal in combination with side plates of non-metallic material which overlap the hub to prevent lateral displacement thereof and which have means for permitting the insertion of flexible binders through the apertures of the corrugated material adjacent the hub, whereby the side plate may be securely fastened to each other and to the intervening spiral winding. Another object of the invention is to provide an improved package comprising a central hub having an elongated metal strap wound in spiral fashion thereon in combination with disks of non-metallic material located on opposite sides of the winding with parts thereof overlapping the outer portion of the hub, said disks having openings adjacent the outer margin of the hub, and flexible binders inserted through these openings and between layers of the winding with their ends secured together. Other objects relate to various features of construction and arrangement which will appear more fully hereinafter.

The nature of the invention will be understood from the following specification taken with the accompanying drawings in which two embodiments are illustrated. In the drawings,

Figure 1 shows a top plan view of the improved package embodying the features of the present invention with one of the disks partially broken away;

Fig. 2 is a perspective view of one of the side disks illustrated in Fig. 1;

Fig. 3 is a perspective view, on an enlarged scale, of a portion of the corrugated fastener strip which is embodied in the package shown in Fig. 1;

Fig. 4 is a partial top plan view of the central portion of the structure illustrated in Fig. 1 with the upper side plate removed;

Fig. 5 is an enlarged sectional view taken on the line 5—5 of Fig. 1;

Fig. 6 is an enlarged sectional view taken on the line 6—6 of Fig. 1;

Fig. 7 is a perspective view of a modified form of disk which may be embodied in the package shown in Fig. 1; and

Fig. 8 is a partial top plan view of a modified form of package embodying the disk illustrated in Fig. 7.

As illustrated in Figs. 1 to 6, inclusive, the invention is embodied in a circular package comprising a central hub 10, formed preferably of wood or the like, which is constructed in the form of a circular cylindrical disk having a central aperture 10a and having a notch 10b extending radially inward from the periphery thereof. This disk 10 has an elongated, corrugated metal strip 11 wound in spiral fashion thereon, the inner end 11a of the strip being inserted in the notch 10b of the hub preliminary to the winding operation. This winding is preferably carried on with the hub 10 mounted to rotate in a horizontal plane on a suitable rotary support and the spiral winding continues to occupy a horizontal plane as it is progressively formed. Before the winding operation, a disk 12 of cardboard or the like is placed in position on the rotary support and the hub 10 is then laid over the center of the disk with the central aperture 10a engaging a pin or the like and registering with the center of the opening 12a which is formed in the middle of the disk 12. The center portion of the opening 12a is of such size that the disk around the margin of the opening overlaps the hub 10 but a series of notches 12b are provided which extend radially outward from the opening 12a beyond the margin of the disk.

After the spiral winding of the strip 11 has been completed, another similar disk 12 is placed over the top of the spiral winding and the package may then be completed by uniting the upper and lower disks with each other and with the intervening spiral winding. This is effected by inserting flexible binders 13, of wire or the like, through the notches 12b, which are caused to register with

each other on opposite sides of the winding, and through the spaces which are formed between adjacent layers of the spiral. These binding wires are then drawn taut with portions thereof extending around the outer peripheral edges of the disk 12 and of the spiral winding, after which the ends thereof are twisted together as shown at 13a so that the winding is held in taut condition about the central hub and the disks 12 are maintained in close contact with the sides of the spiral winding. The nature of the corrugated material of which the strip 11 is formed facilitates the insertion of the binding wires 13 between adjacent convolutions thereof. A portion of this material 11 is shown on an enlarged scale in Fig. 3 in which it will be seen that it comprises a plurality of transverse corrugations 11b with the strip sheared off at one side along the converging lines 11c and 11d, thus forming, on each corrugation, a pair of pointed spikes 11e which are adapted to penetrate the boards or the like in which the fastener is to be driven. In the use of the material contained in the package, the package is first placed upon a horizontal rotary support having a center pin which engages the opening 10a in the hub and then, after cutting the binder wires 13, the corrugated strip 11 may be unwound from the outer edge of the package and successive portions of the desired length may be cut off for use.

Instead of employing radially extending notches in the central portion of the disk, as shown in Figs. 1 and 2, the disks which form the upper and lower walls of the package may be provided with auxiliary openings around the central opening as shown in Figs. 7 and 8. In this form of the invention, a central wooden hub 20 has a strip 21 of corrugated fastener material wound thereon in spiral fashion between a pair of disks 22 of cardboard or the like, each of which has a central aperture 22a somewhat larger than the central opening 20a in the hub with which they register in the completed package. Around the openings 22a in the disks 22, there are provided a series of smaller openings 22b which slightly overlap the outer margins of the hub 20 and which extend outwardly about and below portions of spiral windings of metallic material. These openings 22b in the opposite disks are caused to register with each other in pairs, thus permitting the insertion through the spiral winding and through the disks of the binding wires 23 which are drawn taut and have their ends twisted together as in the form of the invention first described.

Although certain forms of the invention have been shown and described by way of illustration, it will be understood that it may be constructed in various other embodiments which come within the scope of the appended claims.

I claim:

1. A package comprising a hub, a spiral winding of elongated material around said hub, and plates on opposite sides of said winding apertured at their centers and having parts overlapping the outer portion of said hub, said apertures being engageable outwardly of said hub by binders extending around portions of said plates and the intervening winding.

2. A package comprising a hub, a spiral winding of elongated material around said hub, and plates on opposite sides of said winding apertured at their centers and having parts overlapping the outer portion of said hub, and binders extending around portions of said plates and the intervening winding and between convolutions of said winding adjacent said hub.

3. A package comprising a hub, a spiral winding of elongated material around said hub, and plates on opposite sides of said winding apertured at their centers and having parts overlapping the outer portion of said hub, and binders extending around portions of said plates and the intervening winding and between convolutions of said winding adjacent said hub, said plates having openings adjacent said hub to permit said binders to pass therethrough.

4. A package comprising a hub, a spiral winding of elongated material around said hub, and plates on opposite sides of said winding apertured at their centers and having parts overlapping the outer portion of said hub, and binders extending around portions of said plates and the intervening winding and between convolutions of said winding adjacent said hub, said plates having notches extending outwardly from their central apertures and engaged by said binders.

5. A package comprising a central nonmetallic apertured disk, an elongated metal member wound in spiral fashion around said disk, nonmetallic plates engaging opposite sides of said winding and having apertures at their centers of lesser diameter than said disk, said plates having notches extending outwardly from their central apertures beyond the margin of said disk, and binders inserted through said notches and between convolutions of said winding, said binders being drawn taut around radially extending portions of said plates and said winding and having their ends secured together.

6. A package comprising a non-metallic hub having a central aperture adapted to be engaged by a pin, a spiral winding of corrugated fastening material wound in one plane around said hub, a pair of non-metallic disks engaging opposite sides of said winding and said hub and having apertures at their centers to register with the aperture in said hub, said disk having registering openings beyond the outer margin of said disk and flexible binders inserted through said openings and through corrugations of said material, said binders being drawn taut around radially extending portions of said disk and of the intervening corrugated material.

WILLIAM C. KRONQUEST.