

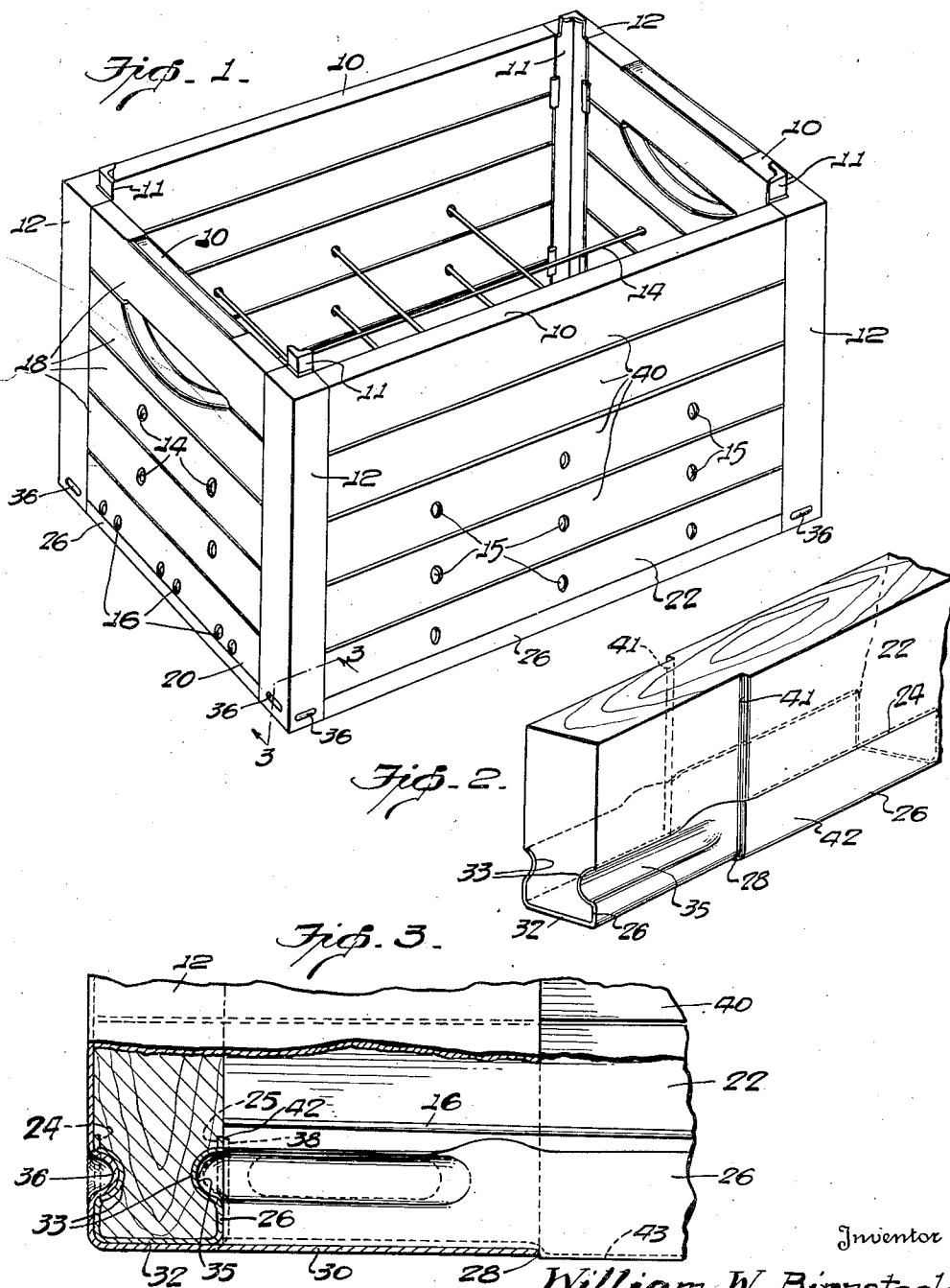
Nov. 10, 1936.

W. W. BIRNSTOCK

2,060,019

BOTTLE CRATE

Filed Jan. 22, 1935



Inventor

William W. Birnstock

By

H. H. Snelling

Attorney

UNITED STATES PATENT OFFICE

2,060,019

BOTTLE CRATE

William W. Birnstock, York, Pa.

Application January 22, 1935, Serial No. 2,925

7 Claims. (Cl. 217—19)

This invention relates to crates and more particularly to improved metal runners for the bottoms of wooden crates, especially for milk bottle crates made up of replaceable elements.

The primary object of my invention is to provide a runner for bottle crates which runner does not easily catch on obstructions on floors and chutes when in use and to provide such a runner with means for securing to the bottom slats of crates so that it remains in place long after being worn entirely thru to expose the slat. Another object is to provide a replaceable bottom slat having a runner which may be easily and quickly renewed and in which no amount of wear can develop a protrusion for catching on floor obstructions.

Other objects will be made apparent by the following description and claims when considered with the attached drawing in which

Figure 1 is a perspective view of a milk bottle crate in which is incorporated my improved runners.

Figure 2 is a perspective view of one end of a replaceable slat in the crate shown in Figure 1.

Figure 3 is an enlarged partly sectional elevation of one corner of the crate, the section being taken on line 3—3 of Figure 1.

For the purpose of illustrating my invention I have shown in Figure 1 a perspective view of a milk bottle crate of the kind described and claimed in my Patent No. 1,810,815 which crate consists of walls 10 held together by separable corner angles 11 and 12 and further reinforced and stiffened by the cell forming cross rods 14 and 15 and by bottom rods 16. These cross rods and bottom rods are preferably of the removable type to permit the replacement of any side or end slat 18 or bottom slat 20 that might be broken during the usual rough handling of the crate; one type of renewable rod is described in my Patent No. 1,949,674. However, it is to be understood that any type of cross rods or cell forming device may be used in combination with my invention.

My improved bottom slat is best shown in Figure 2 as an oblong wood member 22 laterally rabbeted near the bottom at 24, 25 to accommodate a U-shaped metal runner 26 which in turn is rabbeted or otherwise recessed at 28 to permit the bottom ears or flaps 30 of the outside angle 12 to be flush with the bottom surface 32 of the runner 26. The runner is provided with internal bosses 33 whereby they more securely stick to the bottom slats 22 and are also preferably provided with one or more exterior recesses or indenta-

tions 35 for receiving a cooperating boss 36 on the outside corner angle 12; the upturned inside ends 38 of the under flaps 30 may also be provided with bosses for engaging in the proximate recesses 35 but I find this to be an unnecessary refinement. Since the angles and runners are usually made of sheet metal, it will be apparent that the bosses and indentations are formed by a single operation, preferably by stamping.

The bottom slats 22 as well as the upper slats 40 preferably have vertical rabbets 41 at the ends where they fit under the outside angles 12 whereby the outer surfaces of these angles are flush with the outer surface of the walls 10. The ends of the runners 26 are made to conform to the shape of the rabbeted ends of the bottom slat so as to present outer surfaces flush with the outer surfaces of the walls and angles. It will thus be seen that the construction of the improved slat with its U-shaped runner is in keeping with the construction of the rest of the crate and can be substituted for existing slats in crates of this type without any change except the provision of the locking bosses 36 to form a tongue and groove connection with the runner.

One of the primary results of the interlocking construction provided by the bosses or tongues 36 and recesses or grooves 35 is that the sides 42 of the runners remain in place on the slat even after the web 43 of the runner and the flaps 30 have entirely worn away. Milk bottle crates continually go thru a wet and then a dry state so that in time the wood shrinks away from the metal runner and the latter would fall off if not secured to the slat. The usual practice has been to use nails to secure the runner to the slat but in use the nails fall out and since the ends of prior runners do not extend under the corner angles, the runner falls off or hangs on an obstruction and is torn off and this also happens where the runner extends the length of the slat but is not provided with the groove for forming a tongue and slot connection with the corner angles. It will be seen that in my runner no amount of wear on the bottom of the crate can develop a protrusion for catching on floor obstructions or other crates; also wear or shrinkage cannot cause any part to become loosened and fall away from the crate to catch on such obstructions.

In practice I find it best to press the runner on to the slat and then to make the indentations 35 after the runner is in place. It is to be understood, however, that this sequence of operations may be reversed or the indentations

may be made simultaneously with the pressing on of the runner.

In view of the above description it will be appreciated that the invention is not limited to milk bottle crates but is applicable to crates for any use however having slats with bottom wearing surfaces and the following claims define the scope of the invention.

What I claim is:

1. In a crate, a bottom slat, a U-shaped runner on said slat and a boss on one wall of said runner being deeply indented into the slat thus forming a tongue and groove connection between the slat and runner for preventing the runner from falling from the slat.

2. In a crate having replaceable slats, outside and inside angles for locking the slats together at the corners, a bottom slat engaging between the angles at the proximate corners, a U-shaped runner on said slat and also extending between said angles, said runner having a tongue and groove connection with the outside angles.

3. The device of claim 2 in which the side walls of said runner are deeply indented into the slat at the ends thus providing a tongue and groove connection between the runner ends and the bottom slat.

4. In a bottle crate comprising opposite side and end walls, means at each corner for locking the walls together and including an outside angle, a bottom for said crate spaced from the lower edges of said walls, and runners on said edges for engagement with a supporting surface, said runners comprising channel-shaped members embracing said edges and extending under said outside angle, said runners having frictional engagement with the lower edges of the walls intermediate the ends and having at the ends on the inner surfaces of the flanges bosses for locking the runners to said edges whereby the flanges remain in place after the webs of the runners are worn through.

5. In a bottle crate comprising opposite side and end walls, means at each corner for locking the walls together including inside and outside corner angles overlaying the joint formed by the proximate walls, a bottom slat forming the bottom edge of each wall, and a runner on the lower portion of each of said slats, each runner being U-shaped in cross section and embracing said lower portion, said lower portion being rabbeted along the lower outside margin whereby the outer surface of the runner is flush with the surface of the slat, each end of the slat being recessed to fit between said inside and outside angles, and a horizontal tongue and groove connection between one of said angles and said runner whereby the runner is prevented from moving vertically with respect to the angles.

6. In a bottle crate comprising opposite side and end walls, means at each corner for locking said walls together, said means including an outside vertical member covering the end of one wall and having a boss on the inside, a bottom slat forming the lower portion of said one wall, and a channel-shaped runner on said slat having an indentation in the end of its side wall for receiving said boss thus providing a tongue and groove connection with said outside member.

7. In a bottle crate comprising opposite side and end walls, means at each corner for locking said walls together, a bottom slat forming the lower portion of one wall, and a channel-shaped runner on said slat, said means including interlocked outside and inside angle irons, the outside angle iron having stirrup shaped under flaps for receiving adjoining bottom slat ends and a tongue and groove connection between said runner and said outside angle iron whereby the runner and bottom slat remain in place after the wearing away of said underflaps.

WILLIAM W. BIRNSTOCK.