March 31, 1925. 1,531,488

T. E. McNAMARA

SHEET METAL BARREL

Filed Sept. 23, 1922

Fig. 1

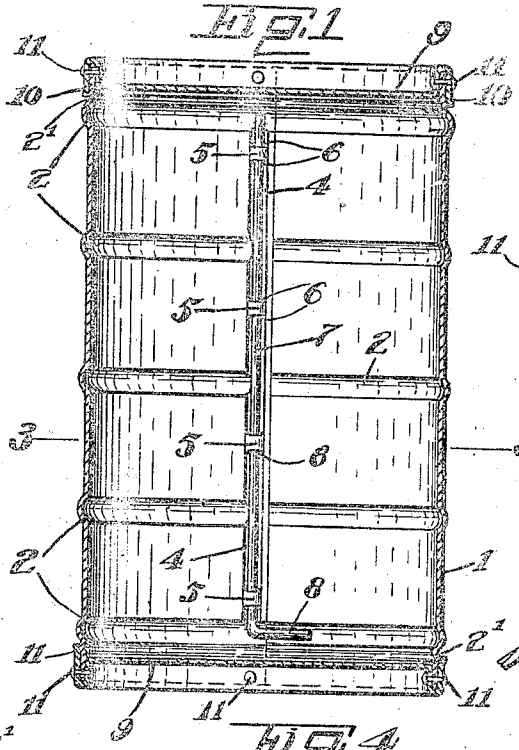


Fig. 2

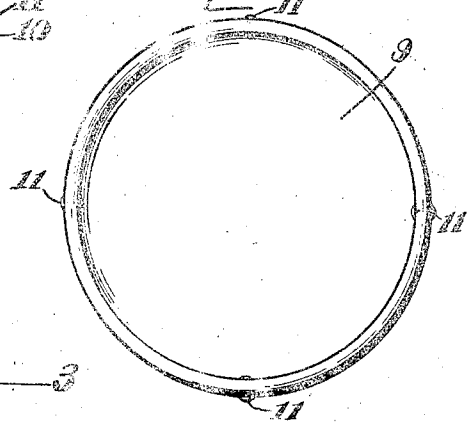


Fig. 3

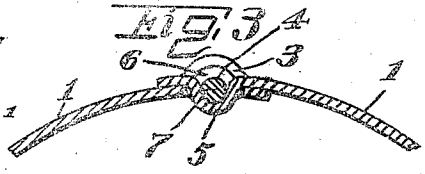


Fig. 4

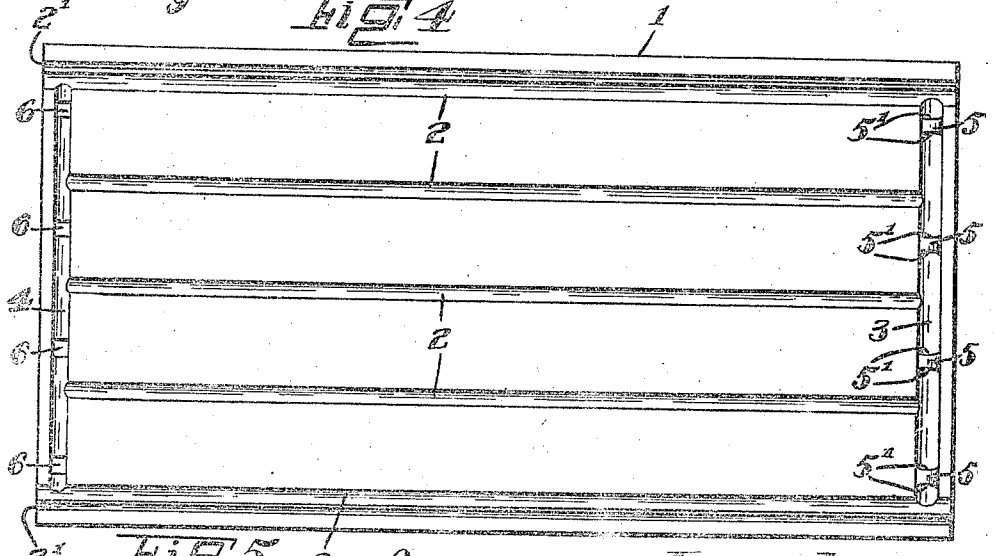
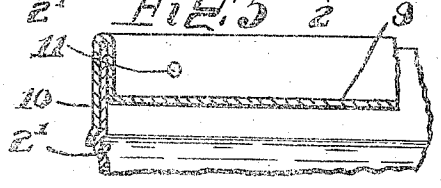


Fig. 5



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Patented Mar. 31, 1925. 1,531,488

UNITED STATES PATENT OFFICE.

TIMOTHY E. McNAMARA, OF ROCKLAND, MAINE.

SHEET-METAL BARREL.

Application filed September 23, 1922. Serial No. 590,010.

To all whom it may concern:

Be it known that I, TIMOTHY E. McNAMARA, a citizen of the United States, residing at Rockland, county of Knox, and State of Maine, have invented certain new and useful Improvements in Sheet-Metal Barrels, of which the following is a specification.

This invention relates to sheet metal containers and while capable of a variety of uses and adaptations is perhaps more immediately useful as a barrel or cask for the shipment or storage of lime or similar commodities. In the further discussion of my invention herein I shall therefore discuss it from this point of view, although it will be understood that such treatment is purely illustrative and in no way limiting.

According to my invention the barrel body or other container is stamped or rolled to shape from thin sheet material, as sheet steel, and with the barrel heads ready formed as by stamping. These may be shipped in flat or disassembled condition and afterwards assembled by first overlapping and joining together the vertical edges of the barrel blank by means of a detachable locking key which extends longitudinally of the barrel and afterwards crimping the heads onto the ends of the formed barrel.

This construction greatly reduces manufacturing costs in respect to both material and labor as well as time and moreover permits the barrel to be conveniently and quickly collapsed to compact form for storage and shipment and to be subsequently assembled for use or knocked down for return.

The construction and manner of assembling and disassembling my container, together with a selected embodiment which well illustrates the principles involved, is described and shown in the accompanying specification and drawings and the characteristic features of novelty are particularly pointed out in the appended claims. Throughout the specification and drawings like reference characters are correspondingly employed, and in the drawings:

Fig. 1 is a vertical longitudinal section through a barrel in accordance with my invention.

Fig. 2 is plan view thereof.

Fig. 3 is a transverse section on the line 3—3 of Fig. 1.

Fig. 4 is a development of the barrel blank, and

Fig. 5 is a sectional detail of the head.

I have indicated at 1 a barrel blank which preferably consists of a thin sheet of material, such as steel, which is provided with a longitudinal series of spaced corrugations 2 and 2′ affording stiffening ribs extending circumferentially of the barrel when the body blank is rolled to shape about a vertical axis and the vertical edges of the blank overlapped and detachably connected to each other.

In the embodiment selected as illustrative of the principles of my invention, one vertical edge of the blank is provided with a longitudinally extending trough-like rib 3 which is formed therein by pressing out the material of the blank adjacent said edge. The opposite vertical edge of said blank is provided with a similar rib 4 which when the blank is rolled to shape about a vertical axis is positioned opposite the raised rib 3.

The rib 3 is provided as here shown, with a spaced series of horizontally disposed tongues or lugs 5 adapted to enter a similar series of slots 6 formed in the rib 4 at the opposite vertical edge of the blank, as clearly shown in Fig. 3, when said edges are overlapped. The lugs 5 are stamped out of the ribs 3 in such manner as to leave a pair of alined openings 5′ at each end of the horizontally-projecting web of metal constituting the lug proper and which web enters the corresponding slot 6 in the rib 4 when the vertical edges of the blank are overlapped.

The overlapping edges of the blank are connected by a locking key 7 which is entered endwise through the openings 5′ at the base of the lugs 5, and is preferably provided at one end with a bent handle portion 8 by means of which the key may be inserted through and withdrawn from said openings. The key 7 is thus disposed

inside the barrel and is protected by the barrel body. Preferably, the key is so inserted as to dispose its bent end 8 within one of the circumferential corrugations 2 of the barrel body, as appears in Fig. 1.

The barrel is covered at one or both ends with a sheet metal head 9 which is preferably provided with an annular attaching flange 10 adapted to be crimped over the barrel end, and if desired, also riveted thereto as indicated at 11.

The barrel therefore consists of a sheet metal body blank which is adapted to be rolled to shape and connected along its overlapping vertical edges to provide an open-ended cylinder, the ends of which are closed by the flanged heads 9, and the overlapping edges are detachably united by the lug and slot arrangement 5 and 6 and removable key 7. This construction reduces the cost of manufacture to the minimum while at the same time providing a container which may be readily set up and collapsed.

In many cases no fastening members for the flanged head 9 will be required. The flange 10 may be driven over the low bead 2′ which lies nearest the top and bottom of the barrel and such frictional attachment is sufficient in many cases.

As shown in Fig. 1 and in the enlarged sectional detail in Fig. 4 the head proper 9 is provided with an annular reversed flange consisting of an upturned portion 9′ and a depending outer flange 9^2. This forms a convenient chine for handling and also a tight and strong joint. The end edges of the barrel receive the top entering the narrow groove or fold formed between the flanges 9′ and 9^2. The heads 9 may be driven on the barrel edges which wedge tightly into the groove or channel of the head down to and partly wedging over the ribs 2′.

As indicated above I prefer in most instances to use a fastening such as a rivet or bolt passing through the flanges 9′ and 9^2 and through the interposed barrel edge.

The arrangement of the ribs may be varied and other vertical ribs employed, but the marginal ribs 3 and 4 are particularly important as strengthening the barrel in the region of its overlap and as making possible a tight joint.

Various modifications in the form and construction of my device may obviously be resorted to without departing from the spirit of my invention if within the limits of the appended claims.

What I therefore claim and desire to secure by Letters Patent is:

1. A container comprising a blank of sheet material having vertical corrugations on its edges and adapted to be overlapped and united along said edges, said corrugations having a tongue and slot interlocking engagement with each other when overlapped and a locking device detachably engageable with said tongues for releasably maintaining the interlock.

2. A container comprising a longitudinally corrugated blank of sheet material adapted to be overlapped and united along two opposite edges, said edges having a tongue and slot in interlocking engagement with each other when overlapped, and a locking key detachably engageable with said tongues for releasably maintaining the interlock, said key having a handle portion disposable in one of the corrugations of the blank when the key is in locking position.

3. A container comprising a blank of sheet material adapted to be overlapped and united along two opposite edges, said edges provided with longitudinally extending ribs adapted to fit one within the other when the blank edges are overlapped, one rib having a spaced series of horizontally projecting locking lugs and the opposite rib having a spaced series of locking slots adapted to receive said lugs, and a locking key insertible endwise beneath said lugs to detachably interlock the overlapping edges of the blank.

4. A container comprising a blank of sheet material adapted to be overlapped and united along two opposite edges, said edges provided with longitudinally extending ribs adapted to fit one within the other when the blank edges are overlapped, one rib having a spaced series of horizontally projecting locking lugs and the opposite rib having a spaced series of locking slots adapted to receive said lugs, there being openings between said lugs and the rib from which they are formed, and a locking key insertible endwise through said openings to detachably interlock the overlapping edges of the blank.

5. A container comprising a longitudinally corrugated blank of sheet material adapted to be overlapped and united along two opposite edges, said edges provided with longitudinally extending ribs adapted to fit one within the other when the blank edges are overlapped, one rib having a spaced series of horizontally projecting locking lugs and the opposite rib having a spaced series of locking slots adapted to receive said lugs, there being openings between said lugs and the rib from which they are formed, and a locking key insertible endwise through said openings to detachably interlock the overlapping edges of the blank, said key bent at one end to provide a handle adapted to lie within one of the corrugations of the body blank when the key is in locking position.

6. A container comprising a flexible body portion having interlocking edges and having an annular groove adjacent one end thereof, and an end closure comprising a depressed head having a reversely folded rim providing an upturned inner portion

and a downturned outer portion, the fold of said rim receiving the end edge of said flexible body portion, and the free end of said downturned outer portion of the rim being frictionally engaged in the annular groove of said flexible body portion.

7. A container comprising a flexible body portion having interlocking edges and having an annular groove adjacent one end thereof, and an end closure comprising a depressed head having a reversely folded rim providing an upturned inner portion and a downturned outer portion, the fold of said rim receiving the end edges of said flexible body portion, and the free end of said downturned outer portion of the rim being frictionally engaged in the annular groove of said flexible body portion, and fastenings passing through said inner and outer folds of the rim and the included end edge of said flexible body portion.

8. A container comprising a blank of sheet material adapted to be overlapped and interlockingly connected along two opposite edges, said edges having interlocking portions mutually engageable with each other when the blank is overlapped, and a locking device disposed wholly within the container and detachably engageable with said interlocking portions at the blank edges for releasably maintaining the interlock.

9. A container comprising a blank of sheet material adapted to be overlapped and interlockingly connected along two opposite edges, and a locking device disposed wholly within the container and detachably engageable with said edges upon relative endwise movement thereof, for releasably maintaining the interlock.

10. A container comprising a blank of sheet material adapted to be overlapped and united along two opposite edges, said edges having a tongue and slot interlocking engagement with each other when overlapped, and a locking device disposed wholly within the container and detachably engageable with said tongues for releasably maintaining the interlock.

In testimony whereof I affix my signature in the presence of two witnesses.

TIMOTHY E. McNAMARA.

Witnesses:

Z. M. DWINAL,

LEONORE W. BENNER.