W. H. EWING.

Barrel or Keg.

No. 209,163. Patented Oct. 22, 1878.

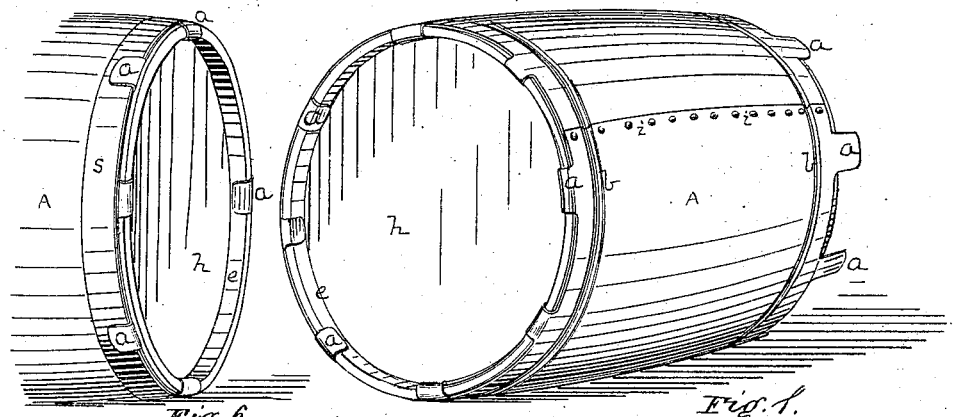

Fig. 6.

Fig. 1.

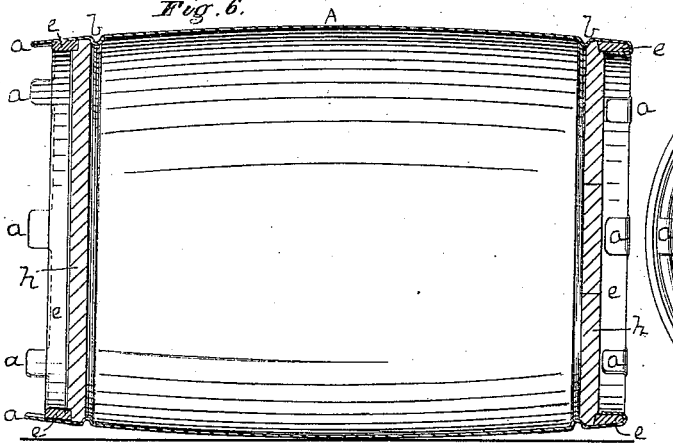

Fig. 2.

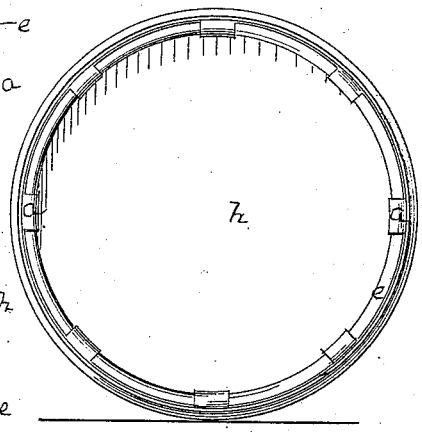

Fig. 3.

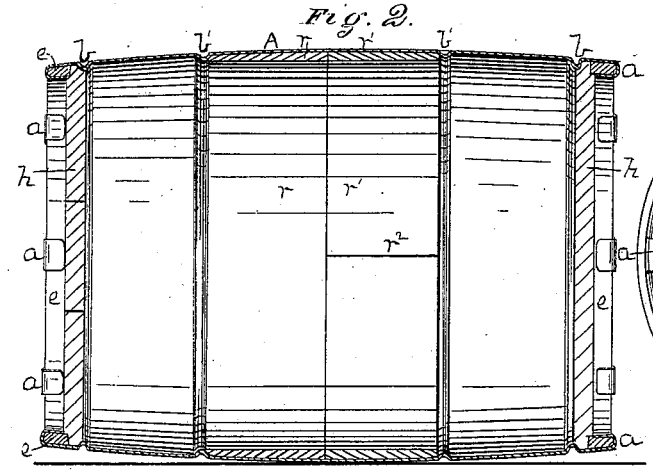

Fig. 4.

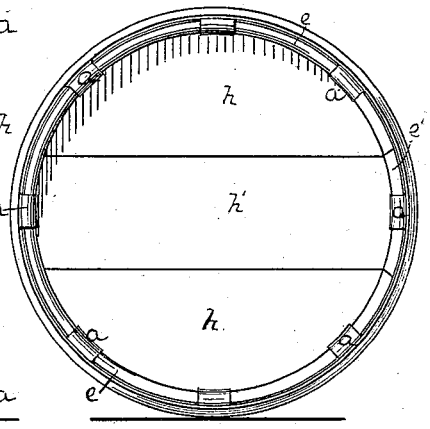

Fig. 5.

Witnesses
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UNITED STATES PATENT OFFICE.

WILLIAM H. EWING, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR TO WILLIAM M. CROFT, OF SAME PLACE.

IMPROVEMENT IN BARRELS OR KEGS.

Specification forming part of Letters Patent No. **209,163**, dated October 22, 1878; application filed May 18, 1878.

To all whom it may concern:

Be it known that I, WILLIAM H. EWING, of Pittsburg, county of Allegheny, State of Pennsylvania, have invented or discovered a new and useful Improvement in Barrels or Kegs; and I do hereby declare the following to be a full, clear, concise, and exact description thereof, reference being had to the accompanying drawing, making a part of this specification, in which—like letters indicating like parts—

Figure 1 is a perspective view of my improved barrel or keg. Fig. 2 is a longitudinal vertical section of the same. Fig. 3 is an end view. Fig. 4 is a sectional view, as in Fig. 2, but showing a device for strengthening the sides. Fig. 5 is an end view, showing an improved method of securing the head; and Fig. 6 is a perspective view of one end, showing a device for strengthening the chines.

My invention relates to certain improvements in barrels and other like packages, the heads of the same being of wood, arranged and secured in a novel manner, while the sides, or that part usually made of wooden staves, are made of sheet metal, which is manipulated in the following way: A sheet or plate of metal of suitable thickness and size is passed through a train of rolls or under a hammer in such way as to draw out or lengthen the middle of the plate in one direction. The object of this is to secure the requisite bulge or swell to the barrel or keg, both for convenience in handling and to give additional strength. The sides of the plate which correspond to the ends of the barrel or keg are stamped or cut in any convenient way, so as to form a series of three or more clips, *a*, thereon. These clips are used for securing the heads, and also chine-hoops, as presently described.

I also make inward projections or corrugations *b b*, at such distance from the edges which form the ends of the package that they may serve as shoulders or stops, against which the heads *h* of the package rest, as seen in Figs. 2 and 4. These corrugations also serve to strengthen the sides and chines of the package. They may be made by suitable tongued and grooved rolls, either at the pass by which the plate is stretched, as before described, or at a separate pass. The edges of the sheet or plate transverse to the line of stretching are sheared to the proper shape, if necessary, and punched on a curved line, so that when the ends of the sheet are lapped and riveted, as seen in Fig. 1, the central diameter may be larger than at the ends, giving the package the desired bulge or swell. This bulge may be secured by properly shearing the plate or sheet without stretching; but on account of economy in material I prefer the method before described. The lapped edges may be united by seaming in any of the known ways, or by both seaming and riveting, though for most purposes I prefer riveting, as seen at *i*, Fig. 1. This joint may also be sealed by brazing or soldering in the usual way, when a tight package is desired.

The heads *h* of the package are made of wood, and may be in one piece, or in more pieces, which pieces may be arranged as presently described. The inner edge of the head *h* may be fitted to the projection *b*, against which it rests, and the outer edge of the head may be rabbeted to receive a retaining-band, *e*. This band is made to fit nicely inside of the metal casing A, and it is secured by bending some or all the clips *a* down over its outer edge. The head *h* will then be held firmly in place between the projections *b* on the inside and the band *e* on the outside. The head can thus be removed or replaced with little trouble by bending the clips *a* up or down. I prefer to make the band *e* project out a little beyond the cut edge of the iron case, so as to guard against injury from the same.

If desired, any number of corrugations *b'* may be made in the metal casing A in addition to those already mentioned. These corrugations *b'* not only serve to strengthen the package, but they also serve as stops or shoulders, projecting inward, between which one or more hoops, *r r*^{1}, may be sprung in place, so as to press against the metal casing and stiffen the same. Where two or more of these hoops *r r*^{1} are employed, they may be so arranged as to break joints with each other—as, for example, *r*^{2} being the joint in the hoop *r*^{1}, the joint in the hoop *r* may be made to rest at the opposite or some other part or side of the metal

case. These hoops r r^1 assist especially in preventing the package from being crushed out of shape.

In Fig. 5, I have shown a modification of the device or arrangement for securing the heads. As there shown, the head is made in three pieces, and the retaining-band e has a section, e', corresponding to the width of the middle piece, h', of the head. This section e' is held down by one or more of the clips a. When it is desired to remove the head, the clips holding this piece or section e' are bent back. The middle piece, h', is removed first, and the other two pieces may be removed by moving them toward the center. In case the clips which hold the section e' should become weakened or broken by repeated bending, the head may be turned around so as to bring other clips to bear upon this section; or such a three-part head, with its retaining-band, may be put in the other or both ends of the package, and after using one in opening the package as often as is desirable the other may be used instead.

In case a tight package is desired, or greater strength secured in the chines, I drive or shrink a tight compressing-hoop, s, on the ends over or outside of the metal casing, and I secure this hoop in place by bending three or more of the clips a over it, as seen in Fig. 6, where three clips are shown bent over the hoop s and three over the retaining-band e.

The hoop s will be found especially useful where packages are handled by grappling-hooks or other like means, and also when the package is to be made tight; and in this latter case I also prefer to arrange a packing-ring, as a rubber gasket, between the edge of the head and the adjacent part of the metal casing A, so that when the case is pressed against the head by the hoop s a tight joint will be secured.

The advantages attending a package of this construction are cheapness, great strength and durability, economy of space in storage, convenience in opening and reclosing when the package is emptied or refilled; also, by making a large part of the package of metal, I reduce the evaporating-surface nearly to a minimum; and by making the heads of wood, I secure a tight package, when desired, with little expense, as well as retain the many advantages peculiar to wooden packages.

I claim as my invention—

1. A keg or barrel having a metallic casing, A, with depressed grooves or corrugations b, clips a, wooden heads h, and retaining-band e, arranged substantially as described.

2. The combination of metal casing A, corrugations b, clips a, retaining-band e, head h, and hoop s, substantially as and for the purposes set forth.

3. In combination with the metal casing of a barrel or keg, one or more interior hoops or bands, r r^1, adapted to be sprung in place, and held by inwardly-projecting ribs or corrugations b', substantially as and for the purpose set forth.

4. In combination with the metal casing of a barrel or keg, having clips a formed on its ends, with depressed corrugations b, a retaining-band, e e', made in two or more parts, and a head made in three or more parts, arranged substantially as described, whereby, upon removing one part of the retaining ring or band, the parts of the head may be removed in order.

In testimony whereof I have hereunto set my hand.

WILLIAM H. EWING.

Witnesses:

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C. L. PARKER.