No. 663,866. Patented Dec. 18, 1900.

J. D. COPPERFIELD & B. M. JUSTICE.

BARREL HEAD.

(No Model.) (Application filed Jan. 20, 1900.)

Fig. 1.

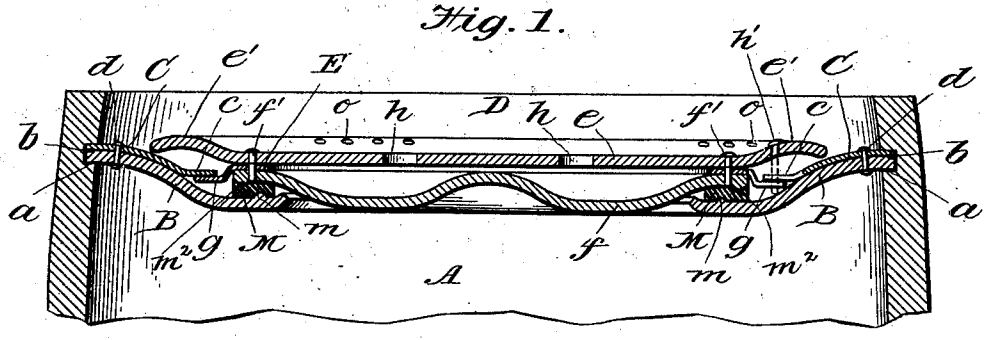


Fig. 2.

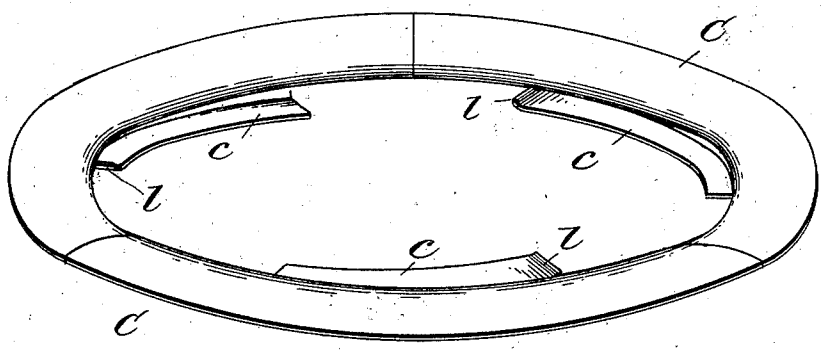
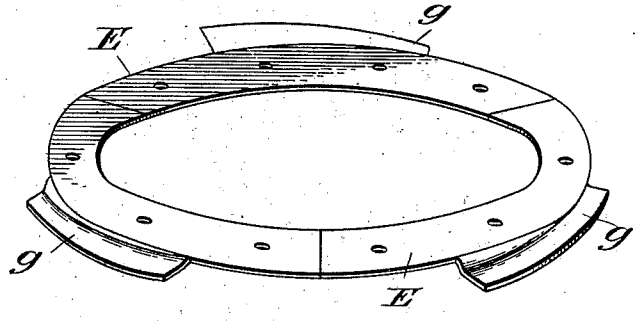


Fig. 3.



Witnesses.
Jno. T. Cross
J. Henderson.

Inventors,
James D. Copperfield,
Burton M. Justice.
by Howe Fitch
their Attorney.

UNITED STATES PATENT OFFICE.

JAMES D. COPPERFIELD AND BURTON MARTIN JUSTICE, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNORS TO THE REMOVABLE BARREL-HEAD COMPANY, OF CAMDEN, NEW JERSEY.

BARREL-HEAD.

SPECIFICATION forming part of Letters Patent No. 663,866, dated December 18, 1900.

Application filed January 20, 1900. Serial No. 2,180. (No model.)

To all whom it may concern:

Be it known that we, JAMES D. COPPERFIELD and BURTON MARTIN JUSTICE, citizens of the United States, and residents of the city of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Barrel-Heads, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to certain improvements in barrel-heads, and particularly to that class employed in barrels for containing liquids.

The principal object of our invention is to provide an improved construction of barrel-head having a cover which can be quickly and easily removed from position and which when in position forms a hermetically-sealed head.

Our invention consists in the construction and arrangement as hereinafter fully described, and particularly pointed out in the claims.

In the accompanying drawings, which form a part of this specification, and in which similar letters of reference are used to indicate similar parts, Figure 1 is a sectional elevation of a portion of a barrel, showing our improved head in a closed position. Fig. 2 is a perspective view of the outer ring, having inclined flanges on its inner periphery, which is secured to the stationary portion of the barrel-head. Fig. 3 is a similar view of a metallic ring having inclined flanges on its outer periphery, which is secured to the removable portion of the barrel-head.

In the said drawings, A designates the barrel, having the usual croze-groove *a* provided on the interior of the staves. Into the groove *a* is fitted a ring B, constructed, preferably, of indurated fiber and curving downwardly toward its inner periphery, so as to bring the inner edge of the ring below the plane of the outer edge. Secured to the upper face of the fiber ring B is a metallic ring C, the outer edge of which is flush with the edge of the fiber ring and extends into the croze *a*. Between these two rings around their periphery is a piece of elastic material, as *b*, extending out beyond the edges, which when the staves are driven together by means of the usual hoops spreads along the vertical wall of the croze and forms an air-tight joint. The ring C is convex and conforms to the shape of the outer portion of the ring B, as illustrated in the drawings, and on the inner periphery of the ring are the horizontally-disposed flanges *c*, each of said flanges being inclined toward one end, as shown in Fig. 2 of the drawings. The ring C is secured to the ring B by means of bolts or rivets, as *d*, and is preferably made in sections, as illustrated. These two rings B and C are, as above described, rigidly held in the head of the barrel and form the stationary portion of our improved head.

The removable cover D comprises an upper section *e*, circular in shape and having its outer portion curved over, as shown, to form a convex rim *e'*, which when the said cover is in position, overhangs the ring C of the stationary portion of the head. The lower section *f* of said cover is dished or curved downwardly and then upwardly in its central portion, as illustrated in Fig. 1 of the drawings, and is bolted or riveted to the upper section *e* near its periphery. Between the two sections *e f* is secured the ring E, which is made, preferably, of steel and in sections, as shown in Fig. 3 of the drawings. This ring E is provided on its periphery with the outwardly-extending flanges *g*, which are inclined in the manner of the flanges *c* on the ring C and are of a length which will admit them to enter the spaces between the flanges *c* when placed in position. This ring E is secured between the sections *e f* by means of the rivets *f'*, which secure all three of the said sections together. The upper section *e* of the cover is provided with the apertures *h*, adapted for the fingers in placing and removing the cover.

On the upper surface of the ring B near the inner edge thereof is a gasket or sealing-ring M, having a groove on its under surface adapted to a bead or rib formed on the upper face of the ring B, as shown at *m*, Fig. 1, for the purpose of holding it in position. A similar groove may be formed on the upper surface to receive the bead m^2, formed on the under surface of the section *f* of the cover.

As before stated, the rim-sections B C are secured together and placed in the stave-croze and held therein by driving the staves together by the usual hoops or other means. This part then becomes rigid with the barrel proper. The cover D, comprising the sections *e f* and E, is then placed over the central opening of the ring-section B, the flanges *g* registering with the spaces between the flanges *c*. The cover is then turned and the inclined flanges *g* pass under the inclined flanges *c*, which operation causes the lower section of the cover to tightly bind against the elastic gasket M, while the rim *e'* of the upper section will bear against the ring C, thus forming an air-tight or hermetically-sealed head.

It is clear that the ledge *e'*, overhanging the flanges *c* and G, when the cover is in the locked position operates to protect these parts from injury or disarrangement, as when barrels are placed one upon the other, &c.

We preferably provide on the flanges *c* at their upper ends an upturned lip *l*, which is designed to insure the engagement of the flanges *g* when in the act of applying and securing the head upon the barrel, the said lip *l* acting to guide the protruding ends of the flanges *g* to their proper position beneath the flanges *c*.

For the purpose of locking the head upon the barrel when in position we preferably provide in the cover D several holes *o*, as indicated in Fig. 1, at about the portions of the said cover which are above the spaces between the flanges *c* when the cover is in the closed position. Into one of these perforations, which may be close to the lowest end of one of the flanges *c*, is inserted a pin *h'*, such as illustrated by the dotted lines in Fig. 1, which pin *h'* is long enough to engage against the end of such flange should the cover slip back slightly on the wedges and tend to unlock.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a barrel-head the combination of a ring-section having a convex portion adjacent its edges, a convex metallic ring secured to the upper surface of said convex portion, spaced flanges formed on the inner periphery of said upper ring substantially horizontally disposed and inclined toward one end, and a removable disk cover having spaced flanges secured thereto, adapted to engage the under surface of the flanges on the stationary ring, for the purpose substantially as described.

2. The combination with the barrel proper, of a ring-section secured thereto having an outer convex portion an inner flat portion, a sealing-gasket supported on said flat portion, a metallic convex ring secured to the upper portion of the main ring-section, horizontally-disposed spacing-flanges extending from the inner edge of said metallic ring said flanges being inclined toward one end, a removable cover having its bottom resting on the sealing-gasket and its top overlapping the upper ring-section, and a series of inclined flanges secured under the top of said cover adapted when in position to engage the under side of the flanges on the upper ring, substantially as described.

3. The combination with the barrel proper, of a ring-section, B, having a substantially convex portion adjacent its periphery curved downwardly and inwardly toward its inner edge, an elastic gasket carried near the inner edge, a metallic ring, C, secured on the upper surface of the section, B, for a portion of its width, inwardly-projecting spaced flanges inclined toward one end formed on the inner edge of said ring, a cover comprising a lower section, *f*, adapted to rest on the sealing-gasket, *a*, ring, E, secured to the top of said section, having flanges, *g*, inclined toward one end, adapted to engage the flanges, *c*, and an upper disk, *e*, secured to the section, *f*, substantially as described.

4. In a barrel-head, the combination with the barrel-body of a ring-section, B, having a substantially convex portion near its periphery curved downwardly and inwardly, the outer edge of which is secured in the stave-croze, a metallic ring, C, secured to the upper surface of the section, B, outwardly-projecting flanges, *c*, formed on said ring at intervals along its inner periphery, said flanges being inclined to form wedges, a sealing-gasket carried by section, B, near its inner edge, a cover, D, comprising a lower disk, *f*, adapted to rest on the sealing-ring, an upper disk, *e*, having a convex edge, *e'*, adapted to bear at its periphery against the ring, C, a ring, E, secured between the section, *e*, *f*, having a series of flanges, *g*, adapted to engage the under side of the flanges, *c*, substantially as described.

In witness whereof we have hereunto set our hands this 15th day of January, A.D. 1900.

JAMES D. COPPERFIELD.
BURTON MARTIN JUSTICE.

Witnesses:
HORACE PETTIT,
BENJ. F. PERKINS.