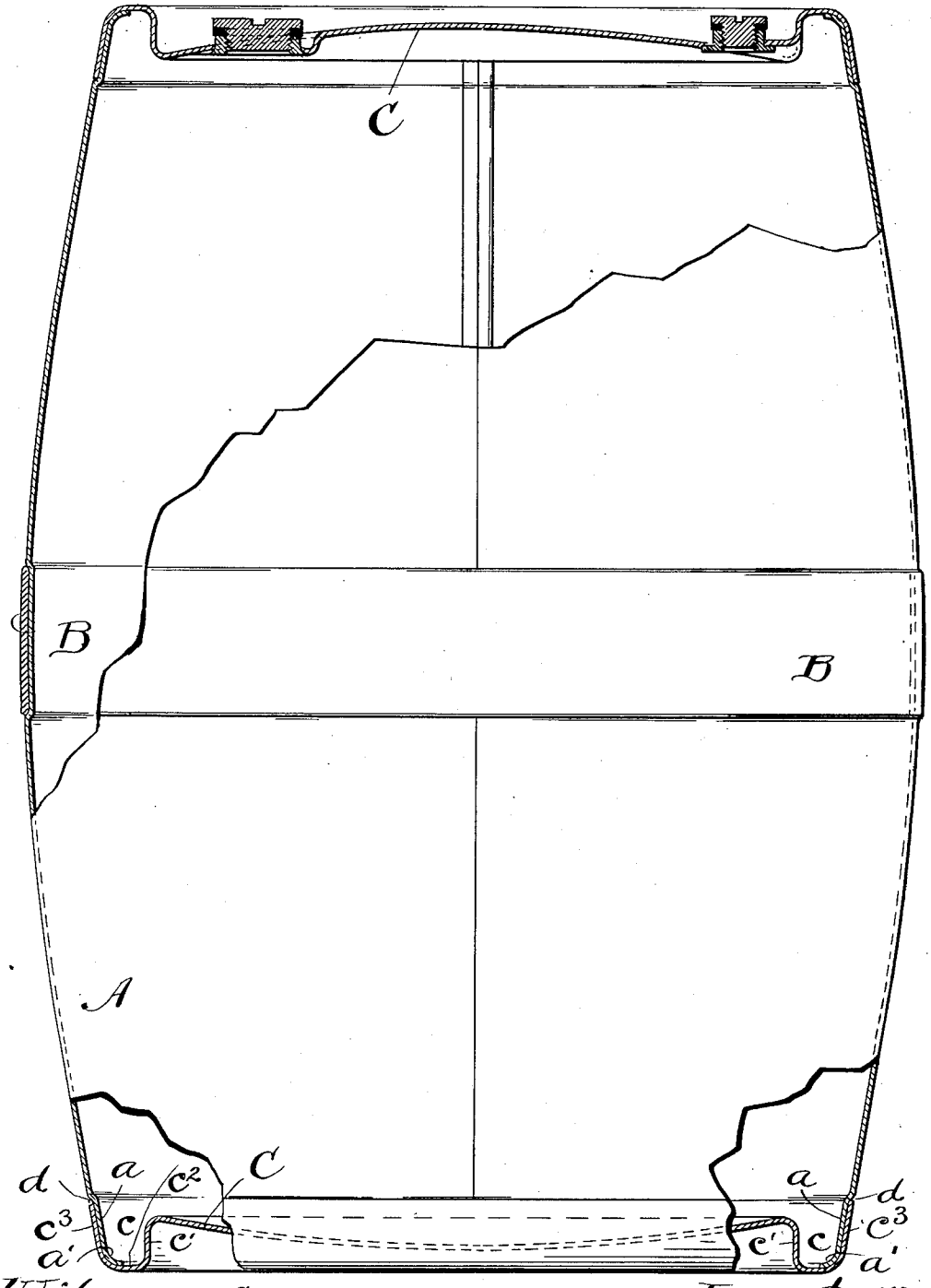
H. W. AVERY & W. S. JUDD.

METAL BILGE BARREL.

APPLICATION FILED JULY 27, 1912.

1,097,744. **Patented May 26, 1914.**



Witnesses,
E. B. Gilchrist
E. M. Freeman.

Inventors
Henry W. Avery
Wallace S. Judd
by Thurston & Kerr
Attys

UNITED STATES PATENT OFFICE.

HENRY W. AVERY AND WALLACE S. JUDD, OF CLEVELAND, OHIO.

METAL BILGE-BARREL.

1,097,744. Specification of Letters Patent. Patented May 26, 1914.

Application filed July 27, 1912. Serial No. 711,799.

To all whom it may concern:

Be it known that we, HENRY W. AVERY and WALLACE S. JUDD, citizens of the United States, and residents of Cleveland, in the county of Cuyahoga and State of Ohio, have invented a certain new and useful Improvement in Metal Bilge-Barrels, of which the following is a full, clear, and exact description.

This invention relates to metal bilge barrels and especially to certain novel features of construction at the end portions of the barrels, or at the chimes and junction of the heads with the barrel body.

The object of our invention is to provide a construction which is strong and able to resist all shocks and blows to which the end of the barrel may or is liable to be subjected in use, without opening the seam at the junction of the head and barrel.

Our invention may be briefly summarized as consisting in certain novel details of construction which will be described in the specification and set forth in the appended claims.

The single figure of the drawings is a side elevation of a barrel constructed in accordance with the preferred form of our invention, parts being broken away and parts being in section.

The barrel includes a body A which is provided with a bilge and is preferably composed of two half sections joined along their longitudinal edges, and each formed from a flat sheet of metal. To strengthen the body, the latter may be provided at the center with a circumferential band B, which is preferably set into an annular inwardly depressed or inset groove or corrugation of suitable width and depth. The body is closed at its ends by two metal heads C which, together with certain features of construction at the ends of the body form the principal parts of our invention.

A metallic barrel to answer the requirements imposed by the trade must have certain characteristics which include, of course, strength and rigidity at all points; the barrel must have a bilge and chimes to facilitate the handling of the barrel; and the barrel must be able to withstand severe tests, which consist usually in dropping the barrel when filled with heavy liquid a certain distance onto the chime without opening a seam between the head and body, or without springing a leak. This last test is required if the barrels are to be used for the transportation of gasolene, oils or other highly inflammable liquids, leakage of which would have a considerable element of danger, as well as result in loss of material. The barrel which we have provided has proven by test to answer all these requirements.

Referring again to the drawing, it will be seen that the body A near each end has a depressed or inwardly offset portion a which extends circumferentially about the body at each end. The extreme ends of the offset portion a are curved or rounded inwardly, as shown at a^1. Each head C has a main central portion which is convex outwardly and the head is provided near its periphery with a groove or annular troughlike portion c formed by bending metal outwardly as shown at c^1, thence laterally as shown at c^2, and thence inwardly, as shown at c^3, the latter constituting a flange like portion which extends beyond the body or main portion of the head. The head is fitted tightly onto the end of the barrel, the outer portion c^3 overlapping the inset portion a of the body, and occupying the annular depression formed by insetting this portion. The portion a is inset to a suitable depth so that when the head is in place, the portion c^3 of the head is substantially flush with the barrel body, thus leaving at the ends no lateral projections. The end of the portion c^3 extends to the shoulder formed at the base of the inwardly offset portion a, and the inwardly curved ends a^1 of the offset portions a bear against the base of the groove in the annular recessed portion c of the head, the portion a^1 of the body and the base of the portion c of the head being similarly curved, so that parts will fit closely together, and conform in curvature. After the head is placed in position in the manner described, solder may be run about the joint formed at the point d.

The chief advantages of the construction above described are as follows: By providing an annular recessed or inwardly offset portion at the end of the body, and by having the annular outer flange-like portion of the head fit into the recess thus formed, and by having the edge of the head substantially engaging the shoulder formed at the base of the offset portion a, and the end a^1 of the offset portion a overlapping and bearing against the base of the annular groove formed in the head, the end of the barrel is

given great strength, and when the chime is subjected to a heavy blow, such as results from the dropping of the filled barrel from a height, instead of the seam being opened, the stresses are transmitted along the barrel body, due largely to the peculiar inner fitting and abutting portions of the head and body at the chime.

Having thus described our invention, what we claim is:

1. In a metal barrel, a bilged body, heads fitted onto and secured to the body, the body having at each end an annular inwardly offset portion, and each head having at its periphery an annular outwardly offset inwardly facing trough like portion forming a chime, the outer flange-like wall of which is fitted onto the inwardly offset portion of the body.

2. In a metal barrel, a bilged body having at its ends annular inwardly offset portions, the extreme ends of which are bent inwardly, and heads fitted onto and secured to the ends of the body, each head having near its periphery an outwardly offset inwardly facing trough-like portion with an outer annular flange like portion which is fitted onto the inwardly offset portion of the body and extends to the shoulder at the base of said offset portion, and the inwardly bent ends of said offset portion of the body bearing against the base of the groove formed in the head by said trough-like portion so as to strengthen the latter.

3. In a metal barrel, a bilged body having at its ends annular inwardly offset portions, the extreme ends of which are rounded inwardly, and heads fitted onto and permanently secured to the ends of the body, each head having near its periphery an outwardly offset inwardly facing trough-like portion forming a chime, the base of the groove formed thereby being rounded, the outer flange-like wall of said groove being fitted onto the offset portion of the body, and its outer surface being substantially flush with the surface of the body beyond said offset portion, and the inwardly curved portion of the offset portion of the body bearing against the base of the trough-like portion of the head so as to strengthen the latter.

In testimony whereof, we hereunto affix our signatures in the presence of two witnesses.

HENRY W. AVERY.
WALLACE S. JUDD.

Witnesses:
A. J. HUDSON,
A. F. KWIS.