

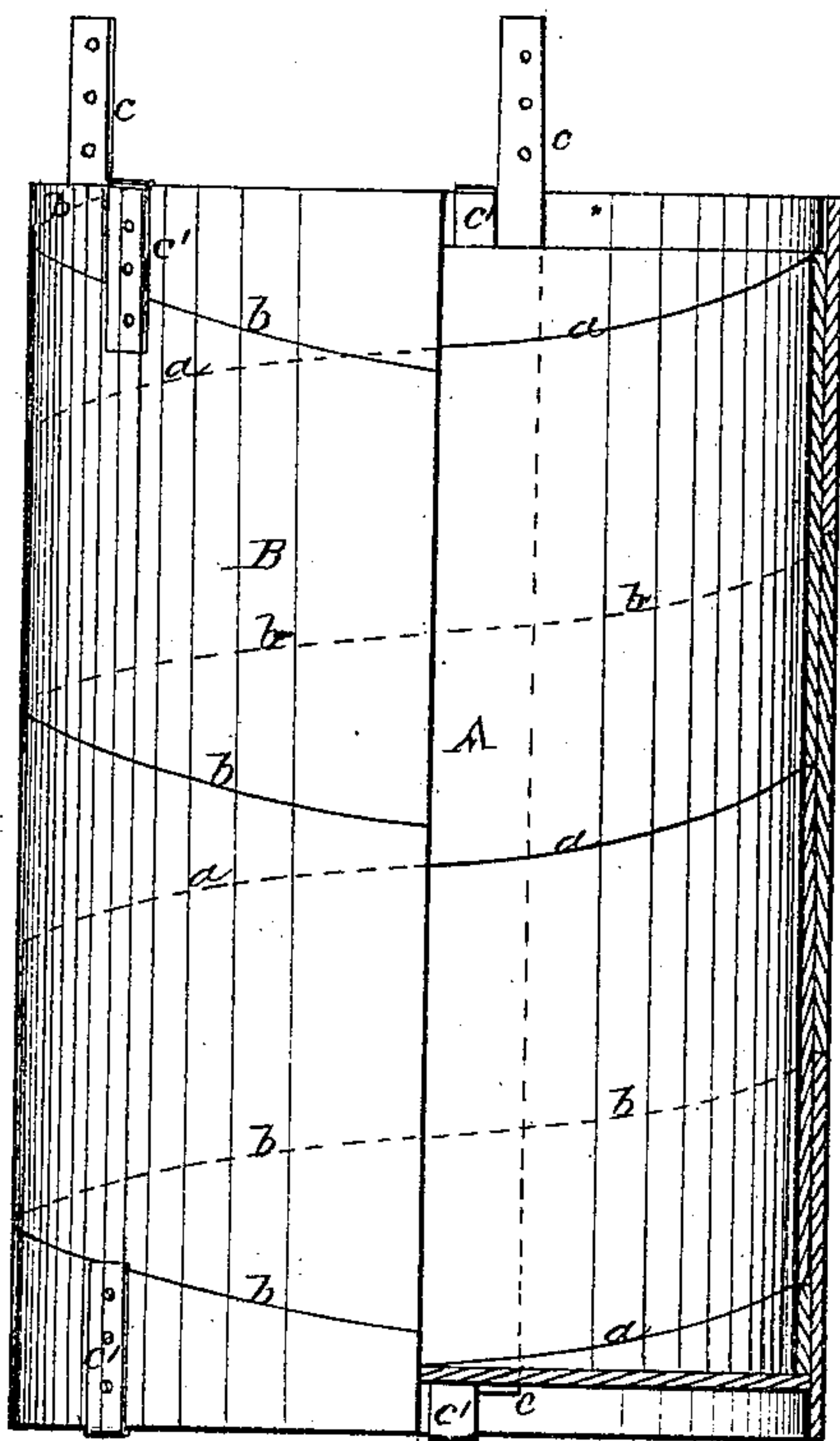
H. Willard,

Barrel.

No. 102,347.

Patented Apr. 26. 1870.

Fig 1.



Witnesses.

E. H. Bond
Henry J. Smith

Inventor

Henderson Willard

By Alex. A. C. Mauck & Co.
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United States Patent Office.

HENDERSON WILLARD, OF GRAND RAPIDS, MICHIGAN.

Letters Patent No. 102,347, dated April 26, 1870.

IMPROVED BARREL.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, HENDERSON WILLARD, of Grand Rapids, in the county of Kent and State of Michigan, have invented a new and useful Improvement in Barrels; and I do hereby declare the following to be a full and sufficient description of the same, reference being had to the accompanying drawing which makes part of this specification, and which represents a side view of my improved barrel, partially in section.

The nature of my invention consists in forming a barrel of an outer and an inner cylinder of wood, metal, or other suitable material, each cylinder being constructed of a single strip of material spirally coiled, the coil of both cylinders running in the same direction, but arranged in such a manner that the spaces between the coils of the outer cylinder will break joints with the spaces between the coils of the inner cylinder.

In the drawing I have shown a barrel formed of an inner cylinder, A, made of a spirally-coiled strip of wood, metal, or other suitable material, and an outer similarly-constructed cylinder, B, the spiral coil of both cylinders running in the same direction, but the spaces *a* of cylinder A breaking joints with the spaces *b* of cylinder B, so as to form a perfectly tight package. The inner cylinder A is made of little less length than cylinder B, which latter protrudes at the ends, thus forming the chime.

The heads being laid on the edges of cylinder A, are secured by strips *c* of wood, metal, or other suitable material passing between the inner and outer cylinders, and having their ends split, the part *c* being bent over the head, and the parts *c'* bent over the edge of cylinder B, and both parts suitably secured by nails or otherwise.

A bilge may be given to such barrel or package by passing around the outside of cylinder B strips of the material of which it is constructed, and decreasing in thickness from the center toward the ends of the package. Hoops may be used, although for most purposes my improved barrel will be strong enough without them.

Having thus described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

A barrel or other similar package, constructed of an outer and inner cylinder, each formed of a spirally-coiled strip of wood, metal, or other suitable material, the coils running in the same direction, but so arranged that the spaces between the coils of one cylinder break joints with the spaces between the coils of the other cylinder, substantially as and for the purposes herein described.

HENDERSON WILLARD.

Witnesses:

ALEX. A. C. KLAUCKE,
HENRY J. ARETZ.