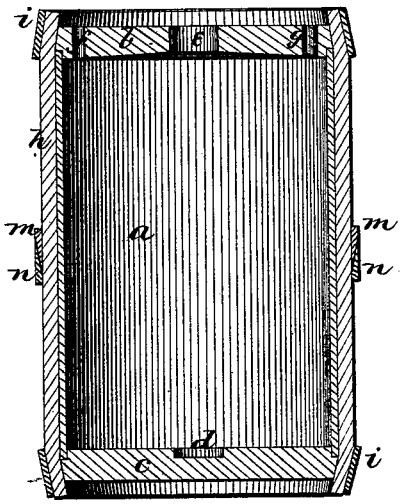
J. L. THOMSON & J. NAYLOR, Jr.

Paper-Barrel.

No. 202,890. Patented April 23, 1878.



Witnesses.

Harry King

M. C. Church

Inventors

Judson L. Thomson

James Naylor Jr.

By Hill Ellsworth

Their Attys.

UNITED STATES PATENT OFFICE.

JUDSON L. THOMSON, OF NEW YORK, AND JAMES NAYLOR, JR., OF ROCHESTER, N. Y.; SAID NAYLOR ASSIGNOR TO SAID THOMSON; SAID THOMSON ASSIGNOR OF ONE-HALF HIS RIGHT TO CHRISTIAN FEIGENSPAU, OF NEWARK, NEW JERSEY.

IMPROVEMENT IN PAPER BARRELS.

Specification forming part of Letters Patent No. **202,890**, dated April 23, 1878; application filed September 21, 1877.

To all whom it may concern:

Be it known that we, JUDSON L. THOMSON, of the city, county, and State of New York, and JAMES NAYLOR, Jr., of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Paper Barrels for containing Liquids; and we do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which our invention is represented by a longitudinal axial section of the barrel.

The object of this invention is to adapt paper barrels to use for containing lager-beer, ales, and other similar liquids; and to this end the invention consists in the barrel constructed as we will now proceed to set forth.

In the manufacture of our improved barrel, we first, by means of a suitable mandrel and rolling machinery, form a hollow cylinder, *a*, of layers of paper and any suitable cement, making said cylinder as hard and strong as can conveniently be done. The walls of the cylinder are about one-quarter of an inch thick, and are of the length and width required. Upon this cylinder we place two wooden heads, *b c*, each being about one and a half or two inches thick, and being rabbeted around their inner edges to receive the edges of the paper cylinder. The edges of both heads are cut on a bevel, as shown in the drawing. The lower head is of uniform thickness, except where, at *d*, it is cut away to admit the end of the shaft hereinafter referred to; but the upper head is made concave on its inner side, and the bung-hole *e* is arranged at the apex of the concavity, in order that the barrel may be filled perfectly full of liquid, and no air-spaces may be left for the accumulation of gases, &c., within it. The upper head is likewise provided with an air-vent, *f*, and a hole, *g*, for the spigot.

The parts having been thus constructed, a strong shaft is introduced through the bung-hole, and its end is centered in the recess *d*, so that the barrel can be turned on or with the shaft for the purpose of winding on the outside layer of paper and otherwise finishing the barrel. The outside layer *h* is then wound on, with interposed cement of any suitable kind, till the required thickness and strength of the walls are attained, a thickness of from three-eighths of an inch to an inch being ordinarily employed. While winding on this outside layer the ends of the outer paper cylinder thus formed are beveled inward by means of wheels or rollers acting upon them until they assume the form shown in the drawings. Metal hoops *i i* are then forced upon the beveled ends of the cylinder, for the purpose of giving them greater strength.

The ends of the cylinder, it will be observed, project beyond the head, forming chines, and the metal hoops, or other equivalent thereof, are necessary to support the chines.

Previously to attaching the metal hoops, however, we slide upon the barrel two or more hoops, *m n*, each having a wedge-shaped cross-section, and the series adapted to lock with each other and hold together as one hoop; and, by forcing these hoops together, they wedge tightly against the barrel, so as to bind and support its straight cylindrical sides as effectively as the ordinary barrel-hoops support the tapering or bulged wooden barrels in common use.

The hoops having been applied, the barrel is removed, painted or stained, and is ready for use.

It will, of course, be understood that paper or paper board substantially water-proof will be used in the construction of these barrels. It may be mentioned that, while forming the chines upon the outer paper cylinder, it is better to support them on their inner side by forms or blocks cut to the shape and bevel required and held in place by any suitable means.

It may also be mentioned that the iron hoops *i i* can be more easily applied if tin hoops are first placed on the tapering ends of the paper cylinder, and the iron hoops are then slidden over and upon the tin hoops.

We claim as our invention—

1. The paper barrel consisting of the inner

cylinder *a*, thick wooden heads *b c*, and outer paper cylinder *h*, having projecting chines beveled inward and secured by suitable hoops, substantially as described.

2. In a paper barrel, the thick wooden upper head *b*, concave on its under side, and provided with the bung-hole at the apex of the concavity, substantially as described.

3. In combination with a cylindrical barrel or other similar structure, the wedge-shaped hoops *m n*, adapted to be tightened against the curved walls by wedging them together, substantially as described.

4. In a barrel having both heads permanently attached during the process of manufacture, the combination of the head *b*, having the bung-hole *e*, with the head *c*, provided with the cavity *d*, for the purpose of enabling the barrel to be mounted on a mandrel or shaft during the work of finishing it, substantially as described.

JUDSON L. THOMSON.
JAMES NAYLOR, JR.

Witnesses to signature of J. L. Thomson:
M. CHURCH,
ELI B. RICE.

Witnesses to signature of J. Naylor, Jr.:
R. F. OSGOOD,
AMOS NAYLOR.