I. B. TAYLOR.

PAPER-BARREL MACHINE.

No. 183,724. Patented Oct. 24, 1876.

Fig. 1.

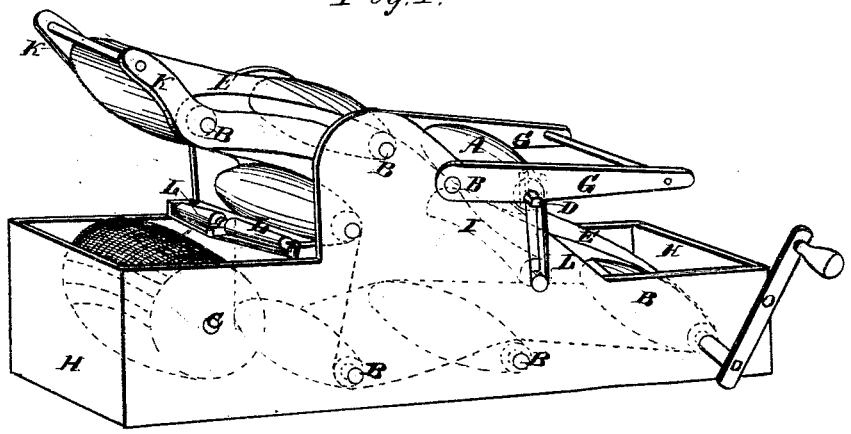


Fig. 2.

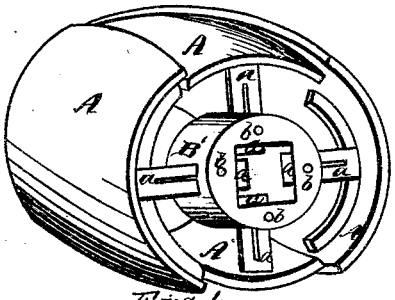


Fig. 3.

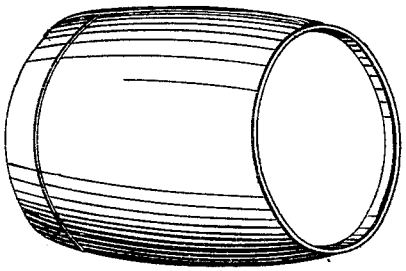


Fig. 4.

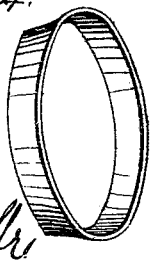
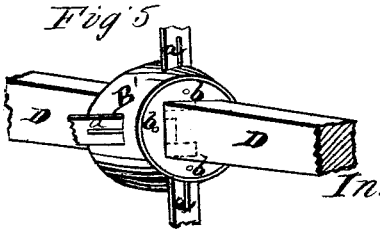


Fig. 5



Witnesses

Adam Wolfe

D. P. Hicks

Inventor

I. B. Taylor

UNITED STATES PATENT OFFICE.

ISRAEL B. TAYLOR, OF PORT BYRON, NEW YORK.

IMPROVEMENT IN PAPER-BARREL MACHINES.

Specification forming part of Letters Patent No. **183,724**, dated October 24, 1876; application filed June 4, 1875.

To all whom it may concern:

Be it known that I, ISRAEL B. TAYLOR, of Port Byron, in the county of Cayuga and State of New York, have invented a new and useful Improvement in the Manufacture of Bilge-Barrels, or other packages of the cylindrical convex form, and which improvement is fully set forth in the following specification, reference being had to the annexed drawings.

The object of my invention is to rapidly form a bilge-barrel or other package of the cylindrical convex form of the material commonly called "pulp," generally used in the manufacture of paper or paper-board.

My invention consists in the peculiar construction and arrangement of an endless concave belt, consisting of felt or other material; also, in a combination of convex and concave rollers, miter rollers, and a reversible convex sieve or cylinder, and an adjustable collapsing form.

My belt is so constructed as to be the longest in the middle lengthwise, thereby enabling it to be used or worked on the convex and concave rollers with the aid of the miter-rollers, and is represented in Figure 1 of drawing by dotted lines and letters E E. My reversible convex sieve is so constructed and adjusted that when the convex roller is properly adjusted upon it and in working position, the sieve becomes concave in form next to the convex roller. My collapsing form is so constructed that when the tapering shaft or mandrel is withdrawn the form will collapse sufficiently to allow the bilged barrel or paper vessel to be easily removed from the form.

In order to more fully describe my invention, I refer to the drawing, as forming a part of this specification, of which—

Fig. 1 is a perspective view of my machine. Fig. 2 represents the collapsing former in a partially collapsed position. Fig. 3 represents the formed bilge-barrel. Fig. 4 represents the head of the barrel with a hoop. Fig. 5 is a detail view of the collapsing former.

The letter A represents the collapsing former adjusted for work, and which receives the pulp from the belt for forming the bilge-barrel or other vessel. The letters B represent the convex rollers upon which the belt passes. The letter C represents the reversible convex cylinder-sieve, which distributes the pulp or material on the belt. The letter D represents the tapering shaft or mandrel upon which the collapsing former A is adjusted for use. The letter E represents the concave belt in dotted lines, as properly adjusted for receiving the pulp from the sieve C, conveying and distributing it on the collapsing former. The letter G represents the weighted lever-arms, which press on former A to expel the water from the pulp sufficiently to cause the pulp to adhere to the former A. The arms may be adjusted by weights or springs. The letters H H represent the frame or box on which the machinery is adjusted for use. The letter I represents the concave roller which supports the collapsing former A, and assists in expelling the water from the pulp and supports former A when in use. The letters K K represent adjustable pivoted levers or arms, which support one of the convex rollers B, and adjusts the roller over the reversible sieve C. This convex roller B is to be a heavy or weighted one, and of sufficient weight, when lowered upon the convex sieve, to make it a concave sieve in form on the top next the convex roller, and conforming exactly to the shape of the weighted roller B. The moment the weighted convex roller is applied to the sieve the sieve will become reversed in order to fit said roller, thereby distributing the pulp evenly upon the belt. The large letters L L L represent the miter-rollers, which govern the belt when in motion or use. The letter O represents the handle or crank to machine by hand. A pulley may be substituted in lieu of this crank.

In Fig. 2, the letters A represent the outside or shell of the collapsing form. The letter B′ represents the hub of the collapsing former A in Fig. 1, and in which the slatted arms are represented by letters *a*. The letters *b* represent the pins or bolts which hold the arms in their proper place when working the collapsing form A. The letters D, in Fig. 6, represent the tapering shaft or mandrel adjusted in the hub B′, in Fig. 2, and which is a part of the collapsing former. The sieve C is hollow.

The arms K K are lowered, and the belt E brought in contact with the sieve. Thus the belt passes between the weighted roller B and pulp-sieve C. The pulp is transferred from

the pulp-sieve C in pulp-vat to the belt E, and conveyed on said belt over and under pressing-rollers to the former, upon which the bilge-barrel is made.

After the barrel is made it is removed by collapsing the former.

I claim as my invention—

1. The method of manufacturing bilge-barrels from paper-pulp, which consists in removing the paper-pulp from the vat to an endless concave belt, and said belt carrying it to a concave former, substantially as described.

2. In a machine for manufacturing bilge-barrels from paper-pulp, an endless concave belt, in combination with a pulp-sieve, substantially as and for the purpose set forth.

3. In a machine for manufacturing bilge-barrels from paper-pulp, an endless concave belt, in combination with an adjustable collapsing former, substantially as and for the purpose set forth.

4. The combination, substantially as hereinbefore described, of a reversible convex sieve, an endless concave belt, and a collapsible former, substantially as and for the purpose set forth.

5. In a machine for manufacturing bilge-barrels from paper-pulp, the pivoted arms K, carrying weighted roller B, in combination with the reversible convex sieve, substantially as described.

6. An endless belt or apron, having a central fullness, substantially as shown and described.

7. The combination of an endless carrying-belt, having a central fullness, with concave or convex and supporting rolls, substantially as described.

I. B. TAYLOR.

Witnesses:

BENJ. OSBURN,

F. P. HICKS.