

(No Model.)

J. MANDOT.
DRYING CYLINDER.

No. 550,988.

Patented Dec. 10, 1895.

Fig. 1.

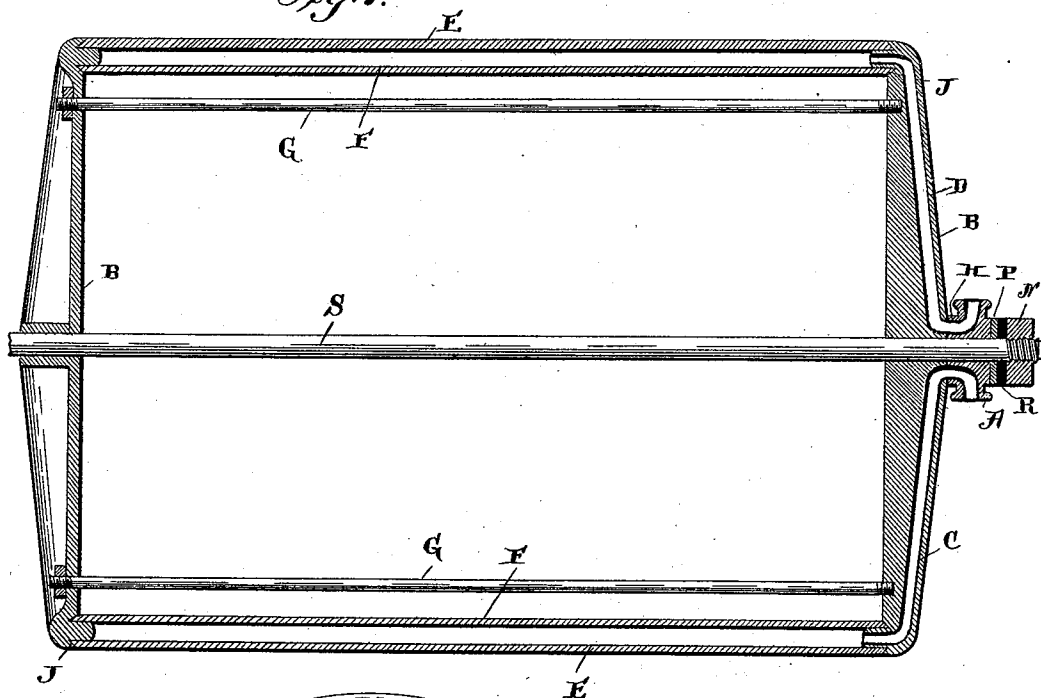


Fig. 2.

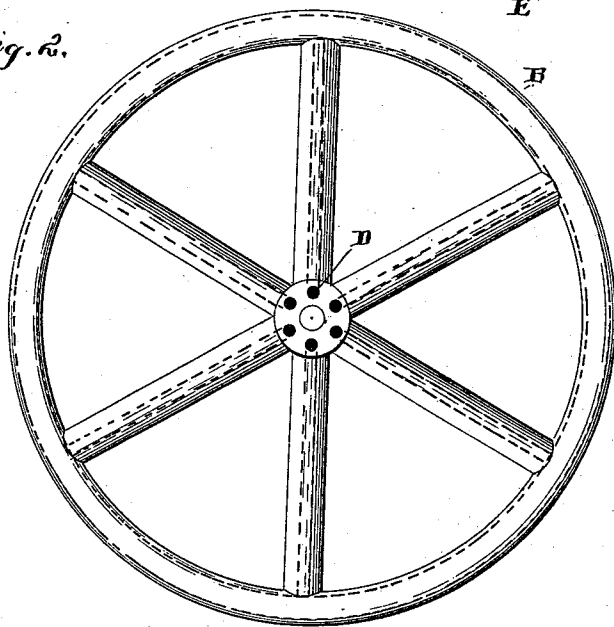
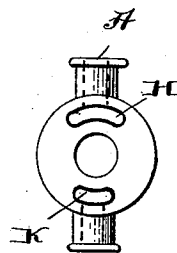


Fig. 3.



Witnesses:

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JEAN MANDOT, OF NEW ORLEANS, LOUISIANA.

DRYING-CYLINDER.

SPECIFICATION forming part of Letters Patent No. 550,988, dated December 10, 1895.

Application filed August 1, 1895. Serial No. 557,824. (No model.)

To all whom it may concern:

Be it known that I, JEAN MANDOT, a citizen of the United States of America, residing at New Orleans, in the parish of Orleans and State of Louisiana, have invented certain new and useful Improvements in Drying-Cylinders, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to drying-cylinders, and has for its object to provide a cylinder in which the steam-space is constantly in communication with the steam-supply and also with the outlet for water of condensation as the cylinder revolves.

The invention consists in certain combination and arrangement of parts, as hereinafter described and claimed.

In the drawings, Figure 1 is a central longitudinal section of the drying-cylinder. Fig. 2 is an end view with the collar removed. Fig. 3 is a view of the stationary collar, showing the passages for steam and water.

The cylinder is built up with two heads B B and two concentric shells E and F. The solid shaft S, on which the cylinder rotates, passes through the center of each head and is secured thereto.

The steam for heating the cylinder is confined to the annular space between the outer shell E and the inner shell F. The edges of the cylindrical shells are beveled at both ends and fit into corresponding circular grooves in the two cylinder-heads. The long fastening-bolts G are screw-threaded into the head B and passing through the opposite head are provided with tightening-nuts.

By using a little cement and tightening up the nuts on the fastening-bolts a very tight joint is secured, as shown at J.

The head B is provided with several radial passages D and C, which communicate with the annular space between the shells, D denoting the passages when they are above the shaft constituting steam-passages, and C denoting the same passages when they have revolved to the bottom of the cylinder and constitute passages for the outlet of the water of condensation. The stationary collar A, having the steam-outlet pipe and water-outlet pipe connected to it, surrounds the shaft

and has a ground flat bearing-surface against the head B of the cylinder. The steam and water passages of the cylinder-head communicate with those in the stationary collar A through this ground joint, as shown. The steam-passage H in the collar A is enlarged, forming an arc-shaped opening, as shown in Fig. 3, on the face of the collar, so that it may fully cover the openings of two of the steam-passages D in the joint. The water-passage K is also enlarged a little, but only sufficient so that it will barely reach two openings of the passages C in the face of the joint. Thus the steam always has free access to the cylinder, and condensing, accumulates in the bottom as the cylinder revolves. The object of restricting the outlet for the water so it will not cover two passages is to prevent the water-level from rising too high in the cylinder; for if it covered the openings enough to permit the escape of water half-way up the diameter of the cylinder then the steam would be constantly escaping by the water-outlet and exert no pressure on the water of condensation in the bottom of the cylinder until it had reached a level covering these openings—that is, the cylinder would be nearly half full of water, which would be very detrimental to the efficient operation of the device.

The collar A is held against the head by a nut N, threaded on the shaft, and between the nut and collar are placed an elastic washer R, of rubber, and a friction-plate P, of hardened bronze. The collar A is thus held stationary between the two revolving flanges. The object of the rubber washer is to give elasticity enough and pressure to keep the collar A against its seat or face of the cylinder-head B, thus making a steam-tight joint all around its periphery and around the center of the shaft.

I claim and desire to secure by Letters Patent—

1. In a drying cylinder the outer shell, the inner shell, the heads secured thereto, one of said heads being provided with radial steam passages communicating with the space between the shells substantially as described.

2. In a drying cylinder the two concentric shells having beveled edges, the two heads provided with corresponding circular grooves,

the tightening bolts connecting the heads and the radial steam passages in one of the heads communicating with the annular space between the shells substantially as described.

5 3. A drying cylinder comprising two concentric shells secured between two fixed heads revolving on the shaft and radial steam passages in one of the heads communicating with the space between the shells.

10 4. A drying cylinder comprising a cylindrical shell, two fixed heads revolving on the shaft secured thereto, steam passages in one of the heads communicating with the steam space in the cylinder and terminating in a
15 circular series of openings on the face of the head, a stationary collar surrounding the shaft and having a face thereof bearing against the revolving face of the head of the cylinder, inlet and outlet passages in the stationary
20 collar adapted to communicate with the passages to the cylinder through the rotary joint substantially as described.

5. A drying cylinder comprising the hollow
25 shell with two fixed heads revolving on the shaft, passages in one head of the cylinder for inlet of steam and outlet of water, said passages terminating in a circular series openings about the shaft, a stationary collar provided with inlet and outlet passages surrounding the shaft and covering said openings, the passages in the collar being enlarged

to form arc shaped openings on the face thereof substantially as described.

6. A drying cylinder comprising two hollow
35 cylindrical shells secured between two fixed heads revolving on the shaft, radial passages in one of the heads communicating with the annular steam space between the shells and terminating in a circular series of openings
40 about the shaft, a stationary collar around the shaft provided with inlet and outlet passages in the cylinder head through the rotary joint substantially as described.

7. A drying cylinder comprising the inner
45 and outer shells E and F, the two heads B B secured thereto, the head B having a circular series of openings on its face and radial passages C and D leading therefrom to the annular space between the shells, the stationary
50 collar A surrounding the shaft and bearing against the face of the cylinder head, steam inlet and water outlet passages in its bearing face, and the nut and washers on the shaft whereby a steam tight rotary joint is secured
55 substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JEAN MANDOT.

Witnesses:

JULES BUCHEL,
G. F. COCKER.