

R. PRITCHARD.
 DRYING CAN OR CYLINDER.
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967,434.

Patented Aug. 16, 1910.

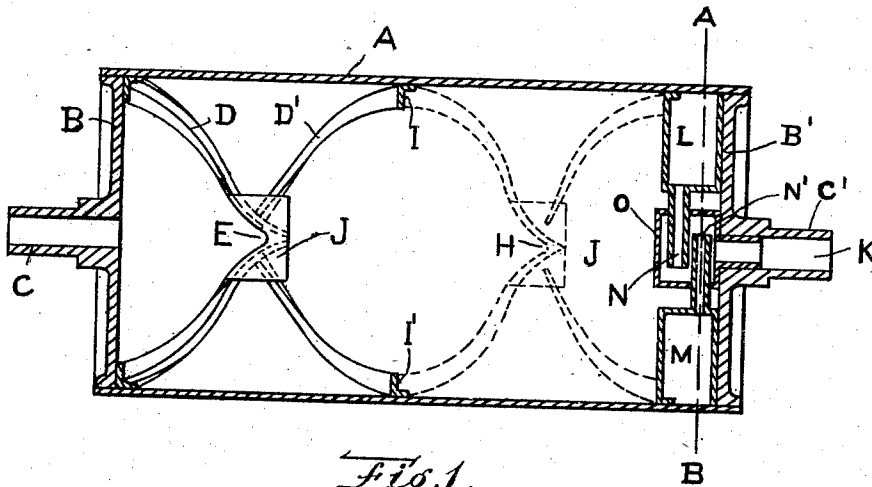


Fig. 1.

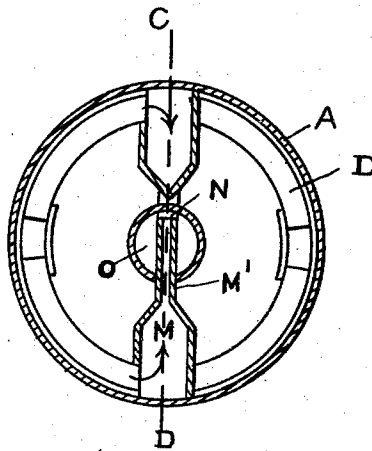


Fig. 2.

Witnesses:
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UNITED STATES PATENT OFFICE.

ROBERT PRITCHARD, OF BURY, ENGLAND.

DRYING CAN OR CYLINDER.

967,434.

Specification of Letters Patent.

Patented Aug. 16, 1910.

Application filed October 15, 1909. Serial No. 522,766.

To all whom it may concern:

Be it known that I, ROBERT PRITCHARD, of Bury, in the county of Lancaster, England, have invented certain new and useful Improvements in and Connected with Drying Cans or Cylinders, of which the following is a specification.

In connection with finishing and the like machines, drying cylinders are employed for the purpose of drying the fabric or other material undergoing treatment. These drying cylinders or cans are constructed of tin, copper or the like and steam is admitted to their interior for the purpose of heating the surface of the said cylinders. The heat thus acquired is utilized to dry the fabrics or other material passing over the outside surface of the cylinder and in accomplishing this the cylinder becomes cool to an extent which brings about condensation of the steam admitted to its interior. Water of condensation is thus deposited within the cylinder and it is necessary in order to maintain the surface of the cylinder at a high temperature in order to effectively dry the material that such water shall be discharged or ejected from the cylinder.

The object of my present invention is to construct an improved form of device and to apply it to drying cylinders or cans in such a manner that the water of condensation is continuously guided toward the discharge end of the cylinder or can without regard to the direction of rotation of the cylinder. Further than this by the application of my device I materially strengthen the cylinder and obviate the employment of iron blocks or stays for this purpose besides producing a perfectly balanced cylinder.

In order that my invention may be better understood I have appended a sheet of drawings whereon:—

Figure 1 is a longitudinal section of a drying cylinder embodying my invention, on line C—D of Fig. 2. Fig. 2 is a transverse section of the same on line A—B, Fig. 1.

In carrying my invention into effect I employ the ordinary construction of drying cylinder A having suitably formed ends B B' and inlet and discharge orifices in the trunnions C C'. To the inner wall or sur-

face of the cylinder A, I suitably attach two spiral water conductors or webs of metal D D'. It will be observed the spiral webs D D' cross each other twice as shown at E and H. The webs consist of a strip of metal suitably attached to and projecting at right angles from the inner surface of the cylinder as clearly shown at I I'. I suitably construct the spiral webs where they cross at E and H with a mid-feather J in order that the water which either one may be guiding or conducting toward the discharge orifice K will be projected accurately forward on to the farther portion of the said conducting web and will not run back or down the wrong web. The crossing portions can be arranged to form various angles according to the diameter of cylinders employed.

I can employ any suitable construction of water discharge boxes at the end of the cylinder or can, and I have shown one suitable form in Figs. 1 and 2. The water collected by the webs is guided or conducted into one of the boxes L or M according to the direction in which the cylinder is rotating and from these boxes it is discharged into the secondary box O and thence out through the trunnion orifice K. It will be observed that the discharge pipes N N' of the boxes L and M pass beyond each other and also beyond the center of the orifice K. This is in order to prevent any of the water running into the empty box and consequently back into the cylinder.

It will be understood that the water is conducted or guided along one spiral web of metal should the cylinder be rotating in a right hand direction and along the other when rotating in the opposite direction, the webs being therefore alternately operative. I can therefore rotate the cylinder in either direction and can discharge or eject the water from it while the cylinder is thus rotating. If necessary in the case of long cylinders the device will require constructing with a greater number of spirals but this is only a modification of my device and demands no material alteration.

Claim:

A drying cylinder provided internally

with two spiral, oppositely inclined conducting webs adapted to conduct water toward one end of the cylinder, said webs intersecting each other and being provided
5 at the places of intersection with means for maintaining a continuous flow of water along either web.

In testimony whereof I have affixed my signature, in presence of two witnesses.

ROBERT PRITCHARD.

Witnesses:

FRANK NASMITH,
HERBERT LIVESEY.