(No Model.)

R. K. COLSON.

CLOTH SPONGING CYLINDER.

No. 523,107. Patented July 17, 1894.

Fig. 1

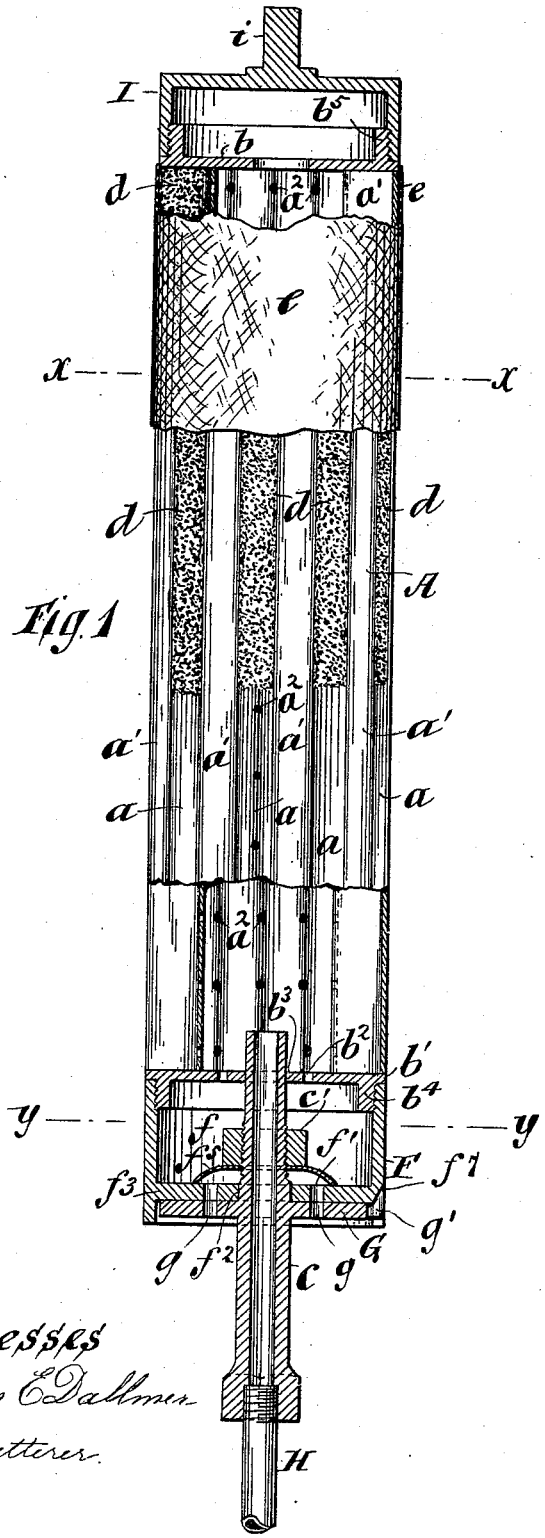


Fig. 2

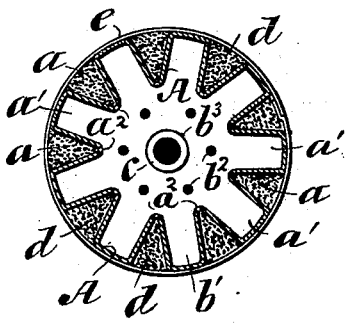
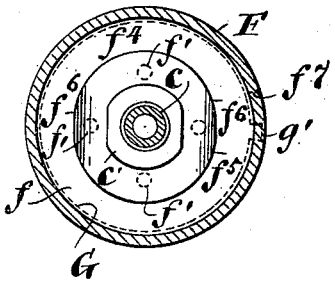


Fig. 3



Witnesses
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E. Gatterer.

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By his attorney
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UNITED STATES PATENT OFFICE.

ROBERT K. COLSON, OF NEW YORK, N. Y., ASSIGNOR OF ONE-THIRD TO HANS ERICH DALLMER, OF SAME PLACE.

CLOTH-SPONGING CYLINDER.

SPECIFICATION forming part of Letters Patent No. 523,107, dated July 17, 1894.

Application filed March 20, 1894. Serial No. 504,387. (No model.)

To all whom it may concern:

Be it known that I, ROBERT K. COLSON, a citizen of the United States, and a resident of New York, in the county and State of New York, have invented a new and useful Improvement in Cloth-Sponging Cylinders, of which the following is a specification.

The object of my improvement is to provide a steam cloth sponging apparatus capable of depriving the steam passing through it into the cloth to be treated, of all superfluous moisture and produce comparatively dry steam.

By this improvement the tendency of steam to damage the fabric by reason of its excessive moisture is obviated.

In the accompanying drawings Figure 1 is a longitudinal section partly in elevation of a cloth sponging cylinder embodying my improvement. Fig. 2 is a transverse section of the same taken at the plane of the line $x\,x$, Fig. 1. Fig. 3 is a transverse section of the same taken at the plane of the line $y\,y$, Fig. 1.

A designates a hollow fluted cylinder preferably made of sheet metal bent to form a series of longitudinal grooves a, and a series of hollow ribs a'. The respective ends of this cylinder A, are secured by solder or other means to disks or plates $b\,b'$; the latter being provided with a number of perforations b^2, for the passage of water of condensation, and a central opening b^3, for the reception of the nozzle of a steam inlet pipe c, which thereby aids to support the cylinder vertically. The bottoms of the grooves a, contain a row of perforations a^2, and the grooves themselves are filled their entire length between the disks $b\,b'$, with a suitable material, such as jute or burlap d, for absorbing the moisture of steam passing from the perforations a^2.

e is a layer of woven material such as muslin, or cotton flannel wrapped around the cylinder between the disks $b\,b'$, to inclose and secure in place the material d.

F is a hollow cylindrical extension of the cylinder A, and contains a chamber f, for the reception and storage of water of condensation. This extension has a screw threaded connection with a flange b^4, of the disk b', and is provided with a head f^3, containing apertures f', and a central opening f^2, fitting a neck portion of the pipe c; and around which, the cylinder A, and extension F, are free to turn.

G is a circular valve plate secured to or forming a part of the inlet pipe c. This valve plate is provided with apertures g, corresponding in number and position with the apertures f', whereby they may be brought in line to form an outlet for the discharge of water accumulated in the chamber f, after suitable intervals, during the process of sponging a roll of cloth wrapped around the cylinder.

The inlet pipe c, is adapted at its lower end, to be connected to a steam pipe H, containing a suitable steam valve for admitting steam within the cylinder A. The upper portion of the pipe c, is screw threaded to receive a nut c', between which, and the head f^3, is interposed a spring washer f^5, having two opposite portions f^6, of its circumference bent downwardly to bear on the head f^3, and thereby hold the adjacent faces of the head f^3, and plate G, in close contact.

g' is a finger fitted to work in a notch f^7, and limit the extent of rotation of the cylinder A, in order to bring the apertures g, and f', into, or out of alignment when opening or closing the valve.

I is a cap having a screw threaded connection with a flange b^5, of the disk b, and is provided with a pin i, by which the cylinder may be supported horizontally in suitable notches of a rack when not in use.

By this construction the water of condensation passes out of the fluted cylinder and live steam is therefore prevented from coming in contact with it and condensing. The fluted construction of the cylinder also affords a large area of heating surface to which the material d, is advantageously exposed, and which tends to convert the moisture already absorbed by the material into steam again.

I claim—

1. A cloth sponging cylinder having suitable inlet and outlet openings, valves controlling the same, said cylinder consisting of a hollow longitudinally fluted shell, and having upper and lower end plates secured thereto, the fluted portions or grooves of the shell

being perforated and filled with absorbing material confined therein, substantially as described.

2. A cloth sponging cylinder, a steam inlet nozzle vertically supporting the same, said cylinder consisting of a hollow longitudinally fluted or grooved shell, and having upper and lower end plates secured thereto, the fluted portions or grooves of the shell being perforated and filled with absorbing material, a waste water receptacle communicating with the cylinder and having a discharge outlet and a valve operated by the movement of the cylinder for controlling said outlet.

3. In a cloth sponging apparatus, the combination of a hollow fluted or grooved cylinder A, end plates secured thereto, said cylinder having its grooves, *a*, perforated and filled with absorbing material confined therein the hollow cylindrical extension F, detachably connected to the cylinder A and having its bottom f^3, perforated and fitted to turn on a neck portion of the pipe *c*, the vertical pipe *c*, having a disk G, to support the apparatus and containing perforations to coincide with the perforations of the bottom f^3, the spring washer f^5, and nut c' fitted to the pipe *c*, and adapted to hold the disk G and bottom f^3 together, the finger g', working in a notch in the extension F, and the end plate b' having its central portion perforated and adapted to fit and turn on the pipe *c*.

In testimony that I claim the foregoing as my invention I have signed my name, in presence of two witnesses, this 16th day of March, 1894.

ROBERT K. COLSON.

Witnesses:
GEO. WADMAN,
JOHN E. DALLMER.