C. C. BUTTERWORTH.

DRYING CYLINDERS.

No. 190,548. Patented May 8, 1877.

Fig. 1.

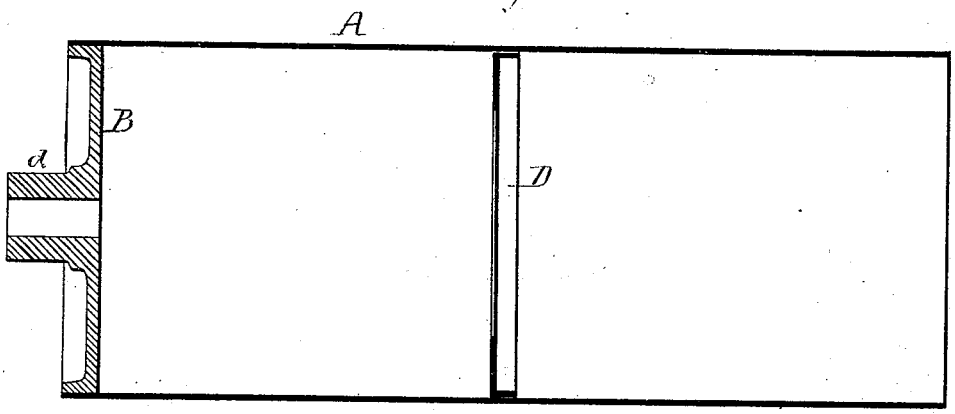


Fig. 3

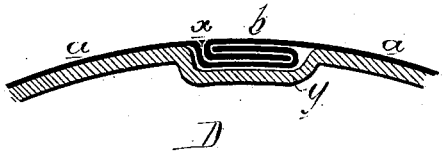


Fig. 4

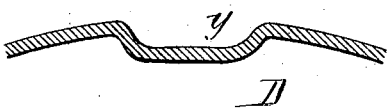


Fig. 5

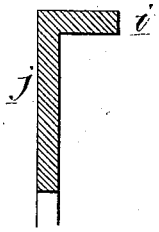
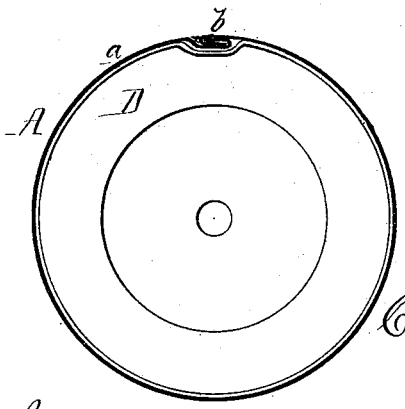


Fig. 2.



Witnesses
Henry Howson Jr.
John K. Rupertus.

Charles C. Butterworth
by his Attorneys
Howson and Sons

UNITED STATES PATENT OFFICE.

CHARLES C. BUTTERWORTH, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO HIMSELF AND JAMES BUTTERWORTH, OF SAME PLACE.

IMPROVEMENT IN DRYING-CYLINDERS.

Specification forming part of Letters Patent No. **190,548**, dated May 8, 1877; application filed April 7, 1877.

To all whom it may concern:

Be it known that I, CHARLES C. BUTTERWORTH, of Philadelphia, Pennsylvania, have invented a new and useful Improvement in Drying-Cylinders, of which the following is a specification:

The object of my invention is to make a substantial drying-cylinder having a uniformly smooth exterior, and this object I attain in the manner which I will now proceed to describe, reference being had to the accompanying drawing, in which—

Figure 1 is a section of a portion of the cylinder; Fig. 2, a transverse section of the same, and Figs. 3, 4, and 5 portions of the cylinder drawn to an enlarged scale.

The body A of the cylinder consists, as usual, of tinned plates of sheet-iron, the sheet *a* being bent to a circular form, and its edges united by a double lap-joint, *b*, which projects into the inside of the cylinder, so that the uniformity of the exterior may not be interrupted excepting by a slight cavity at *x*, and this is filled with solder in finishing the body.

A flanged head, B, is snugly fitted into each end of the cylinder, to which the flange is soldered, each head having a hollow journal, *d*.

In the interior of the body, at suitable intervals, are re-enforcing rings D, one only of which is shown in the drawing, the ring being of iron, and preferably of the sectional form shown in Fig. 5, so that there may be a comparatively broad flange, *i*, to be soldered to the body, and a deep flange, *j*, to add strength to the ring, and consequently to the said body.

The double-lapped joint contributes materially to the strength of the cylinder, and in order that it may do this effectually it should extend from end to end of the body, and not be interfered with by the internal re-enforcing rings; hence the latter are recessed at the edge, as shown at *y*, in Figs. 3 and 4, for the reception of the projecting joint.

The edges of the heads are also recessed for the reception of the said joint.

I claim as my invention—

The within-described drying-cylinder, consisting of the body A of tinned sheet-iron, with internally-projecting double-lapped joint, the internal re-enforcing rings D, recessed at the edges to receive the said joint, and the heads B, all being combined as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES C. BUTTERWORTH.

Witnesses:

HERMANN MOESSNER,

HARRY SMITH.