

T. HOLTZ.
 DRYING CYLINDER.
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1,059,937.

Patented Apr. 22, 1913.

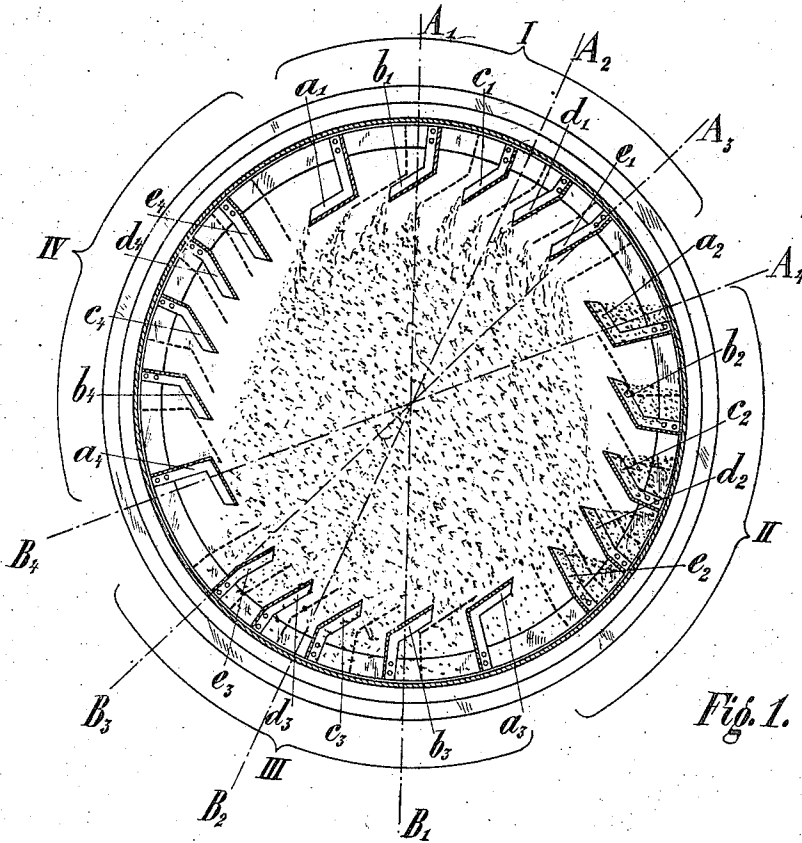


Fig. 1.



Fig. 2.

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UNITED STATES PATENT OFFICE.

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DRYING-CYLINDER.

1,059,937.

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To all whom it may concern:

Be it known that I, THEODOR HOLTZ, a subject of the King of Prussia, German Emperor, residing at Kattowitz, of the Kingdom of Prussia, German Empire, have invented certain new and useful improvements in Drying-Cylinders, of which the following is a specification.

This invention relates to a drying cylinder which has radial blades arranged upon its inner wall in such a manner that each of said blades lifts a certain quantity of the material to be dried to let it drop into the cylinder so that the material traverses the hot gas or air which flows along the cylinder in axial direction.

According to the invention a certain number of the lifting blades are arranged to form a group, the front parts of the lifting blades of each group being parallel or almost parallel with one another. Owing to this arrangement the material to be dried is uniformly distributed upon the largest possible section of the cylinder as the material falls off at the same time from all the blades of one group. With this arrangement of the lifting blades the drying material is thrown only periodically as the cylinder after the lifting blades of one group have discharged their contents has to turn a certain distance before the lifting blades of the next group have reached the discharging position. This inconvenience can however be compensated by composing the cylinder of a certain number of rings carrying each groups of lifting blades, the groups of the consecutive rings being arranged so that they stand opposite the intervals between the groups of the two adjacent rings.

In the accompanying drawings a drying cylinder constructed according to this invention is shown by way of example.

Figure 1 is a cross section. Fig. 2 is a longitudinal section of the drying cylinder.

According to this invention the cylinder contains a certain number of rings 1, 2, 3, 4, 5, etc., which carry each four groups I, II, III, IV of lifting blades *a*. As shown in the drawing each group comprises five lifting-blades (*a*¹, *b*¹, *c*¹, *d*¹, *e*¹—*a*², *b*², *c*², *d*², *e*²—*a*³, *b*³, *c*³, *d*³, *e*³—*a*⁴, *b*⁴, *c*⁴, *d*⁴, *e*⁴ respectively).

The front parts of all the lifting blades of a group are parallel the one with the other and stand at the same angle with regard to the perpendicular *A*¹—*B*¹. Owing to this arrangement the material to be dried begins to fall at the same time from the lifting blades of each group, so that the falling material is uniformly distributed through the cylinder.

The rings are arranged as follows:—Suppose that the ring 1 be situated in the cylinder as shown in Fig. 1, that is to say that its diameter *A*¹—*B*¹ stands perpendicular, the next following ring 2 is turned to a certain angle (about 22½°) with regard to the first ring so that its diameter stands at the position *A*²—*B*². The diameter of the ring 3 has the position *A*³—*B*³ and that of the fourth ring has the position *A*⁴—*B*⁴.

I claim:—

Drying cylinder comprising in combination with the cylinder proper lifting blades fixed to the inner wall of said cylinder and arranged in groups, the lower parts of the blades of each group being almost parallel the one with the other so that the material lifted is thrown off simultaneously from all the blades, substantially as described and shown and for the purpose set forth.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

THEODOR HOLTZ.

Witnesses:

MOSKO FINZI,

LOUIS KATZ.