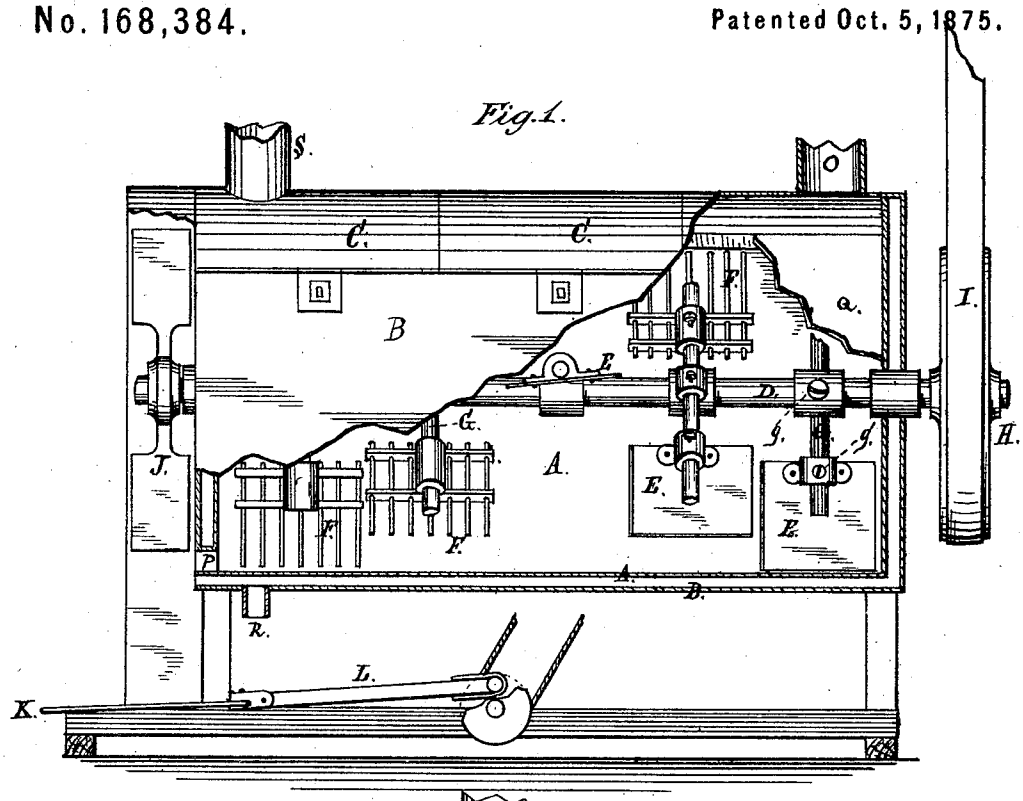
C. DUWEL.

Tobacco Drier.

No. 168,384. Patented Oct. 5, 1875.

Fig. 1.



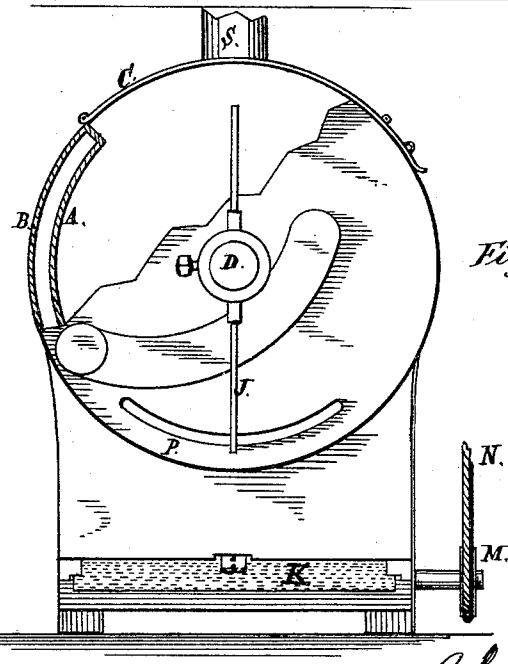


Fig. 2.

Witnesses:
Arch'd Stewart
L. Dehn

Inventor:
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per T. Van Kannel Esq
atty's

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UNITED STATES PATENT OFFICE.

CHARLES DUWEL, OF CINCINNATI, OHIO.

IMPROVEMENT IN TOBACCO-DRIERS.

Specification forming part of Letters Patent No. **168,384**, dated October 5, 1875; application filed August 7, 1875.

To all whom it may concern:

Be it known that I, CHARLES DUWEL, of Cincinnati, county of Hamilton and State of Ohio, have invented a new and Improved Tobacco-Drier; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawing, making a part of this specification.

Figure 1 is a side elevation, showing a portion of the same torn away, and Fig. 2 is a rear view, similarly represented.

The nature of my invention relates to that class of driers wherein steam is used as the drying agent; and consists, mainly, of an inner stationary cylinder containing the agitating machinery, and is surrounded by another cylinder or shell of such size as to leave a required steam-space between the two. Longitudinally through the center of the cylinders is a shaft rotating in journal-boxes, to which are attached at given distances a series of wings and forks, which, as they revolve, agitate the tobacco therein, and, at the same time move it from the receiving to the discharging end of the cylinder. It further consists in the use of a riddle, on which the dried tobacco falls, and by a rapid reciprocating motion given the riddle drops the fine dust below, while the tobacco is discharged into a receptacle for that purpose provided. A fan revolving above the riddle cools the tobacco as it is thus finally discharged from the machine.

In construction, my invention is as follows: A is the inner cylinder and B the outer one, the two having a longitudinal section of its uppermost periphery brought into a single shell, leaving an opening which is closed by doors C, which may be opened for adjusting the works within. The two cylinders are so constructed with relation to each other that the cavity between them will hold steam under sufficient pressure for heating purposes. Through the center longitudinally is seen the shaft D. A series of wings, E, and forks F are attached to arms G in such way that they may be moved to or from the shaft or turned at an angle, as may be desired, by loosening the set-screws *g* and *g'*. To the front end of said shaft is fastened the pulley H, receiving the main driving-belt I. To the other end of said shaft is attached a fan, J, and K is a riddle on which the tobacco falls, and is set at such inclination as to free itself from the tobacco, which drops off at the lower end, while the fine dust and dirt drops through its perforations. Motion is given the riddle by a pitman, L, from a crank-shaft driven by pulley M and belt N, which may derive its power from any convenient shafting. At O is the inlet for the tobacco, and a curved slot at P is the outlet. Q is the inlet for the steam, and R the outlet for the condensed steam, which leads to a chamber, not shown in drawing. At S is another opening, which connects with a flue and carries off the heat and gas, as well as very fine dust arrising from the heat and agitation of the tobacco.

The operation of my invention becomes obvious from the foregoing description.

Tobacco being let into the inner cylinder through the tube O, the forks and wings coming around alternately will agitate the mass so as to expose every particle to uniform heat, and as the wings are set slightly at an angle will gradually move the mass to the discharging end. The length of time it is required to keep the tobacco in the drier can thus be adjusted by giving the wings more or less inclination. The forks have the effect of dividing up and separating any small clusters or lumps that may be within the mass. As the tobacco drops from the curved slot P it drops on the riddle, which, being kept in constant motion, will spread the tobacco evenly over its surface until it drops over the end, while the dust and dirt will fall through the perforations. At the same time the fan revolving will force a fresh current of cold air on the tobacco, thus cooling it before it falls into the receptacle.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The cylinder A, in combination with the rotating shaft D, provided with the adjustable wings E and fork F, substantially as and for the purpose described.

In testimony whereof I have hereunto set my hand this 9th day of July, 1875.

CHARLES DUWEL.

Attest:
T. VAN KANNEL,
A. V. STEWART.