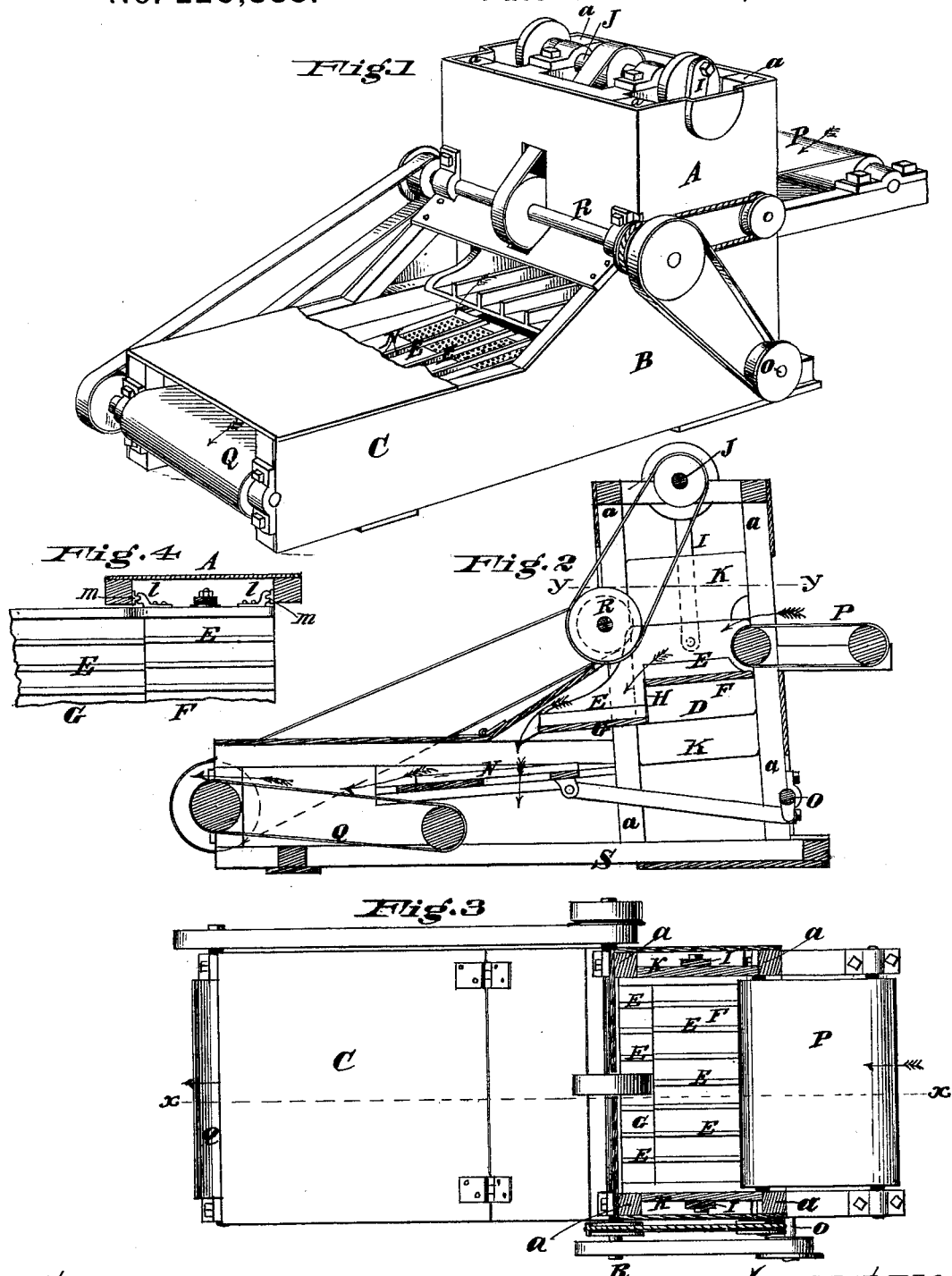


T. R. SPENCE.  
Machine for Dressing and Finishing Fine-Cut Tobacco.  
No. 220,883.      Patented Oct. 21, 1879.



Attest  
Edward Cross  
Edw. Curney

Inventor  
Thomas R. Spence  
By Hoses T. Colworth  
His Attys.

# UNITED STATES PATENT OFFICE.

THOMAS R. SPENCE, OF CINCINNATI, OHIO.

## IMPROVEMENT IN MACHINES FOR DRESSING AND FINISHING FINE-CUT TOBACCO.

Specification forming part of Letters Patent No. **220,883**, dated October 21, 1879; application filed April 2, 1879.

*To all whom it may concern:*

Be it known that I, THOMAS R. SPENCE, of Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and useful Machine for Dressing and Finishing Fine-Cut Tobacco; and I do hereby declare the following to be a full, clear, and exact description of the same, which will enable others skilled in the art to which my invention relates to make and use it, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a perspective view of the machine, partly opened to expose the shakers. Fig. 2 is a longitudinal vertical section in the plane of the line *x x*, Fig. 3. Fig. 3 is a horizontal section in the plane of the line *y y*, Fig. 2, and Fig. 4 is a sectional view, showing a modification in the means for guiding the shakers.

Similar letters of reference denote the same parts in the several figures of the drawings.

In the manufacture of fine-cut tobacco, the tobacco is taken from the cutting-machine in moist lumpy masses composed of long and short fibers, which are then treated by hand to separate them into loosely-adhering locks or flakes, and to sift out the short fine particles called "shorts," which constitute an inferior grade of tobacco. The long fibers thus dressed are then dried by exposure to the air in a suitable room of the factory, preparatory to being placed in packages for the market.

My invention has for its object to dress and finish fine-cut tobacco by machinery, and thereby dispense with the expensive and laborious process of performing such work entirely by hand; and, to this end, it consists in a machine for dressing and finishing fine-cut tobacco, consisting, essentially, of one or more vertically-reciprocating shakers and a horizontally-reciprocating riddle arranged beneath the shakers, the whole inclosed in a suitable casing, into which heated air is introduced to dry the tobacco in the shakers and riddle, whereby the tobacco is reduced to a flocculent condition and the shorts separated from the long fibers.

It also consists in combining with the shaking and riddling devices and casing, an endless carrier arranged below the riddle, and by which the dressed tobacco is carried out of

the machine and exposed for a proper time to the action of the heated air for thoroughly drying it.

In the accompanying drawings, A represents an upright case with an extended base, B, upon the rear side, which may be continued to form a trunk, C, for the carrying-apron. These parts are constructed with a wooden frame inclosed by boarding, and the part A, instead of standing perpendicular to the base, is inclined rearward slightly, to give the proper motion to the shakers.

The shakers are composed of a shoe, D, having two bottoms at different levels, each provided with longitudinal ribs E, the highest bottom, F, being at the front of the machine, and the other, G, immediately below and in rear of the first. The space between the two bottoms is covered by a wire or other screen, H, for the passage of heated air between them.

The shakers are arranged in a horizontal position, inclining slightly downward to the rear, within the upright part of the casing, and are suspended by pitman I from eccentrics, crank-wheels, or cranks on the ends of the driving-shaft J, having its bearings at or in the top of the casing.

The rotation of the driving-shaft imparts a vertically reciprocating movement to the shakers, which are guided between the upright sides of the case, to give them a rearward throw on their upward movement.

As shown in the drawings, the frame of the upright casing is inclined slightly to the rear, as hereinbefore described, and the shoe of the shakers is guided between the corner-pieces *a* of the framing. For this purpose the sides of the shoe may be provided with wide guide-boards or strips K, as shown in Fig. 3, or instead of the guide-strips the ends or sides of the shoe may be provided with grooved castings L, to move on correspondingly-ribbed ways *m*, secured to the casing, as shown in Fig. 4.

N is a riddle, arranged in an inclined position within the casing below and in rear of the lower shaker, and reciprocated horizontally by a pitman and a crank-shaft, O, at the front of the machine.

The riddle may or may not be provided

with longitudinal parallel ribs, and its ends, in front and rear of the perforated center, are without openings or perforations.

Its arrangement with respect to the shakers is such that, when reciprocated, its inner end shall always remain under the rear shaker, to catch the tobacco discharged therefrom, and prevent it from falling to the bottom of the machine. P is an endless feed-apron placed at the front of the machine above the shakers, and Q is an endless carrying-apron arranged within the extended base of the casing, so that its inner end shall lie under the riddle. These two aprons, as well as the crank-shaft O, are driven by belts and pulleys from the counter-shaft R in the upright part of the casing, such counter-shaft receiving its motion from the main shaft by belts and pulleys. The moist lumpy masses of tobacco from the cutting-machine are spread upon the apron P, and by it fed to the shakers, which toss it up and separate it into flocculent lengths, and as it falls from one shaker to the other it is turned and further spread out, the ribs of each assisting in the operation. Upon leaving the lower shaker it falls upon the riddle, where it is still further separated, and the fine particles or shorts sifted out and deposited upon the floor or bottom of the machine, from which they can be removed through doors in the sides of the casing. From the riddle, the tobacco thus treated is deposited in loose flakes or locks of long fibers upon the endless apron Q, by which it is carried away from the machine and deposited upon the floor, or some object placed under the end of the apron to receive it.

During the passage of the tobacco through the machine it is subjected to the action of heated air introduced at a convenient point beneath the operating mechanism, say, at S, Fig. 2, which fills the casing and comes in contact with the tobacco on the shakers, riddle, and discharge-apron, a portion passing through

the riddle and another through the screen between the two shakers.

By this means the tobacco is dried upon all sides, and when discharged from the machine is finished and ready for packing.

If desired, the discharge-apron may be dispensed with, and the tobacco taken from the machine as it leaves the riddle; but I prefer to use the apron, as it more effectually removes the tobacco and exposes it for a longer time to the heated air for drying.

The outer end of the discharge-apron should be raised above the floor to a sufficient height to admit of a suitable receptacle being placed under it to catch the finished tobacco, and covered openings should be made at suitable points in the casing, through which the process can be inspected from time to time.

Having thus described my invention, what I claim is—

1. The combination of the vertically-reciprocating shakers F G and inclined guides *a a*, mechanism for operating said shakers, the reciprocating riddle N, in rear of and below the shaker G, the whole arranged within a suitable casing, in which heated air is introduced to heat the tobacco continuously, in its passage through the machine, substantially as described.

2. The combination of the vertically-reciprocating shakers F G, inclined guides *a a*, and mechanism for operating the shakers, whereby a rearward movement is imparted to the shakers on their upward throw, substantially as and for the purposes specified.

In testimony of which invention I have hereunto set my hand this 29th day of March, A. D. 1879.

THOMAS R. SPENCE.

Witnesses:

E. A. ELLSWORTH,  
FLAMAN BALL, Jr.