(No Model.) 3 Sheets—Sheet 1.

J. T. DRUMMOND.

PROCESS OF UTILIZING TOBACCO WASTE.

No. 384,565. Patented June 12, 1888.

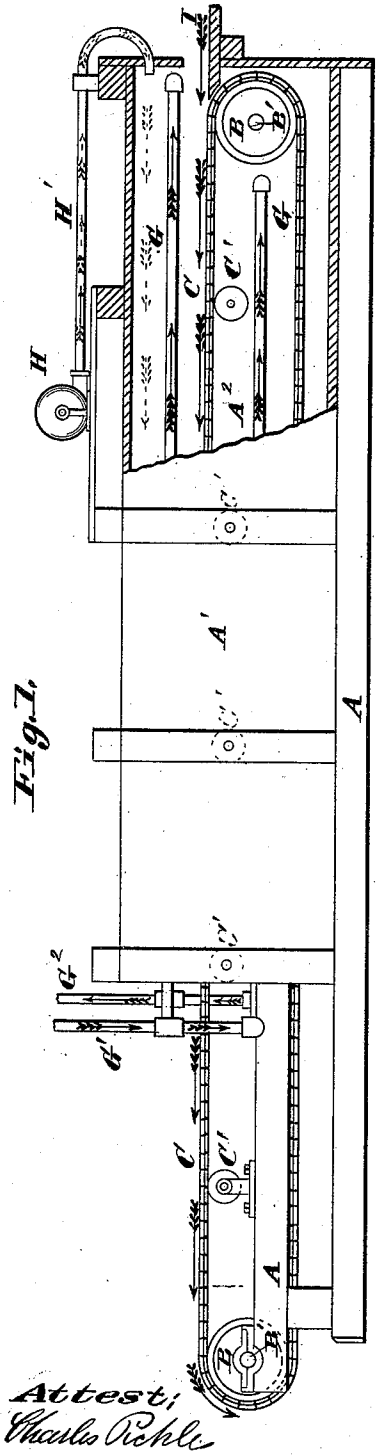

Fig. 1.

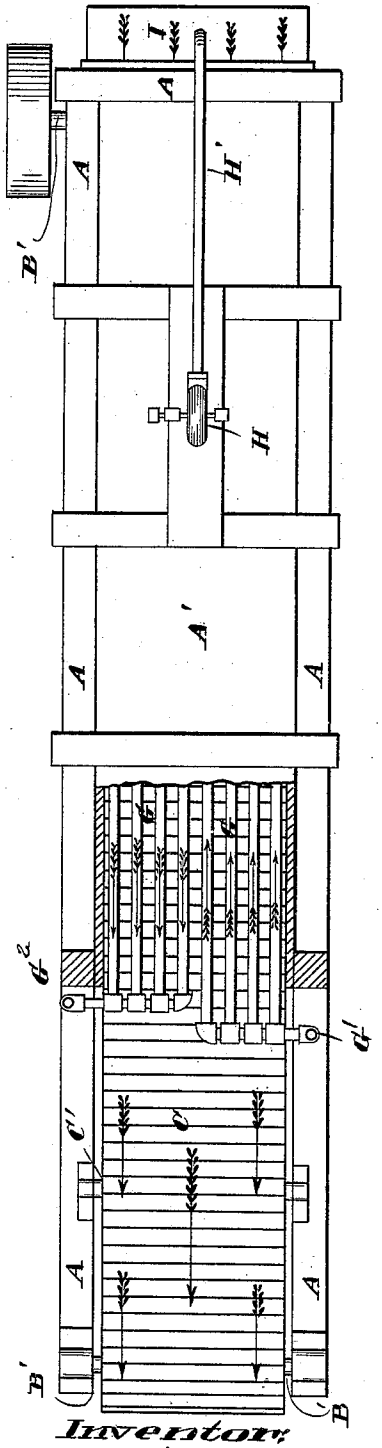

Fig. 2.

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(No Model.) 3 Sheets—Sheet 2.

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Fig. 3.

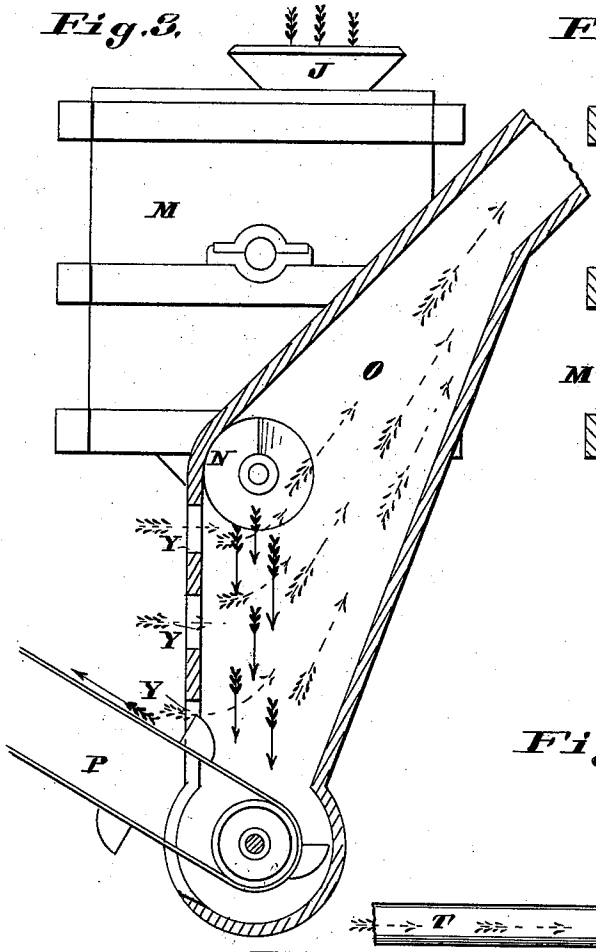


Fig. 4.

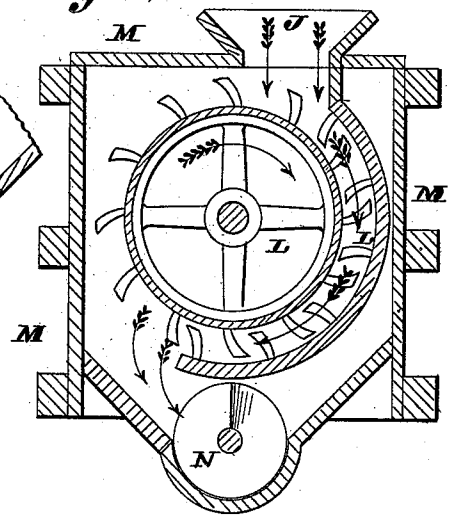
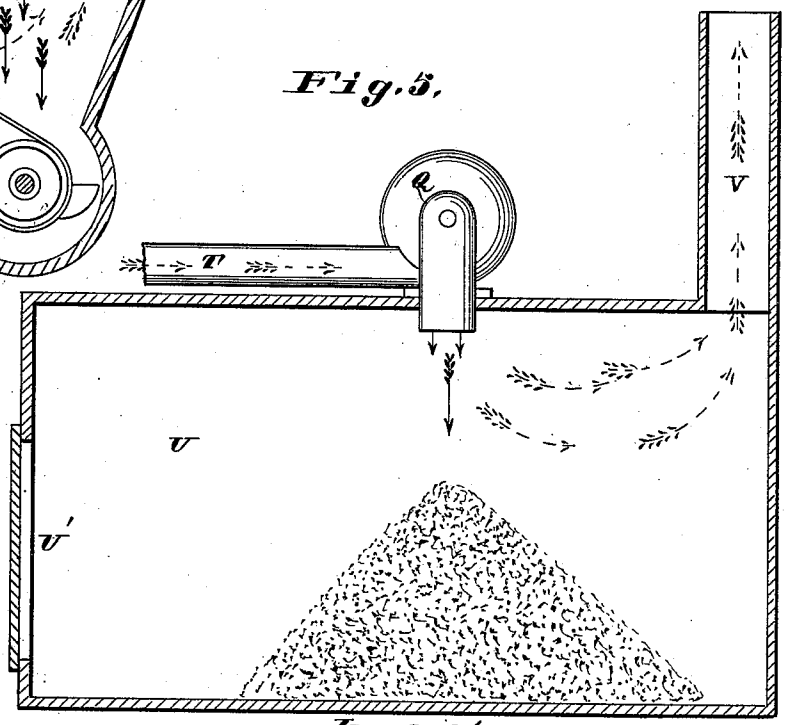


Fig. 5.



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(No Model.) 3 Sheets—Sheet 3.

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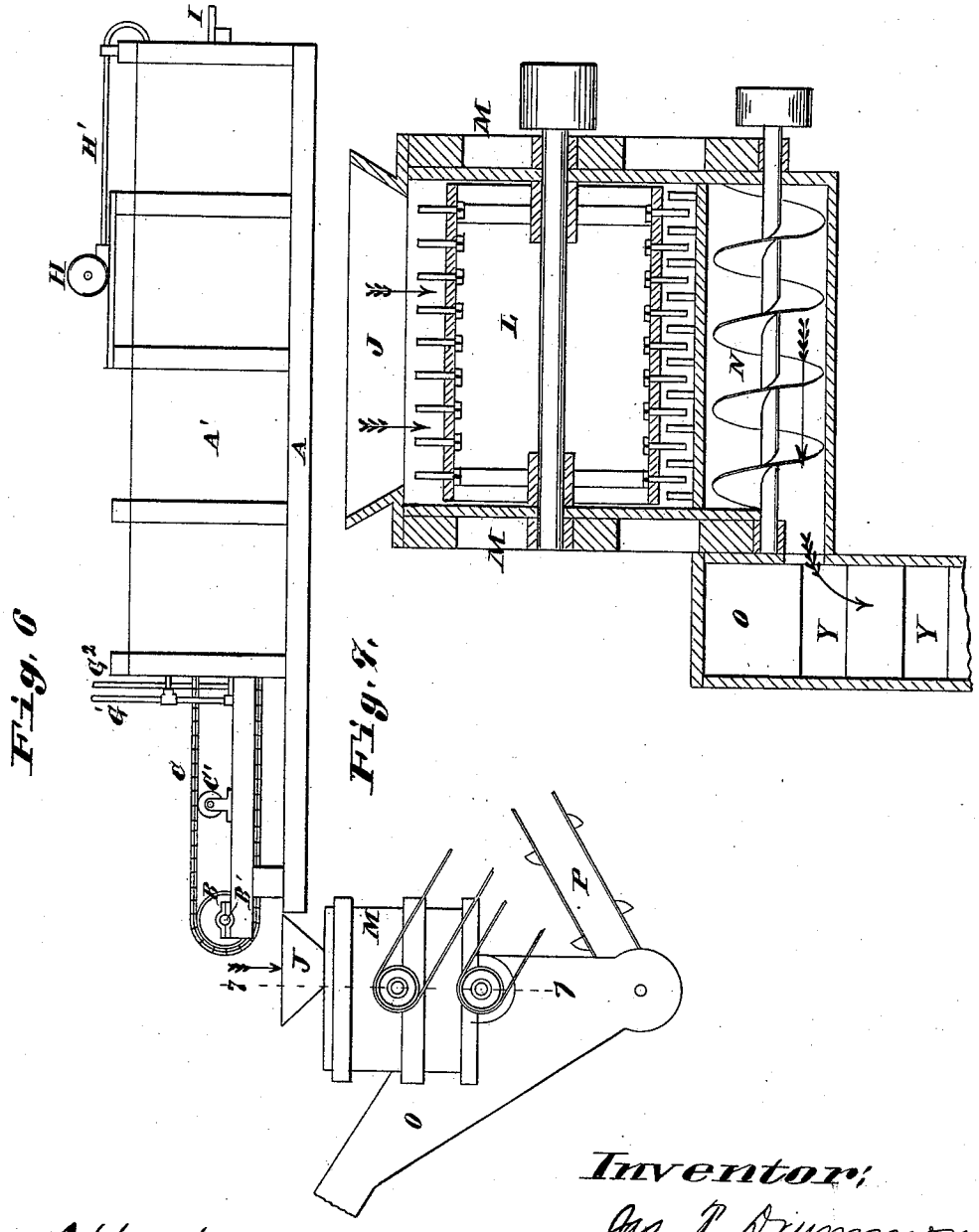

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UNITED STATES PATENT OFFICE.

JAMES T. DRUMMOND, OF ST. LOUIS, MISSOURI.

PROCESS OF UTILIZING TOBACCO WASTE.

SPECIFICATION forming part of Letters Patent No. 384,565, dated June 12, 1888.

Application filed February 23, 1884. Serial No. 121,821. (No model.)

To all whom it may concern:

Be it known that I, JAMES T. DRUMMOND, of the city of St. Louis, in the State of Missouri, have invented a Process for Utilizing Tobacco-Leaf Waste, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings of my preferred form of apparatus employed in my process, forming part of this specification, and in which—

Figure 1 is a side view, part in vertical section, of the drying and cooling part of the apparatus. Fig. 2 is a top view, part in horizontal section, of same. Fig. 3 is partly an end view and partly a vertical section of the separator. Fig. 4 is a vertical section of the part shown in end view in Fig. 3. Fig. 5 is a vertical section of the receiving room or chamber and a side view of the fan. Fig. 6 is a view of the entire machine. Fig. 7 is a section on the line 7 7, Fig. 6.

My apparatus forms the subject-matter of another application, Serial No. 139,973, filed August 8, 1884.

My invention relates to a process for utilizing tobacco-leaf waste, which consists of stems or ribs having a portion of the blade adhering thereto.

My invention is designed to accomplish the removal of the remaining blade portions or parts of the leaves that are generally thrown away or burned with the stems.

Under the ordinary process of stemming tobacco there is a certain amount of the blade portion that remains upon the stems and is thrown away or burned with them.

I will proceed to describe the apparatus with reference to the drawings, which will also make clear the process.

Referring to the drawings, A represents a suitable frame supporting a box or case, A′, and rollers or drums B with a shaft or gudgeons, B′, journaled in suitable boxes secured to the frame. C represents an endless apron or belt supported and operated by the drums B, and prevented from sagging by rollers C′ properly supported by the frame or box. The box A′ forms a drying-chamber A^2, which is heated by hot-air or steam pipes G traversing the box, there preferably being two series, one above and the other between the two parts of the belt, as shown in Fig. 1. Steam or hot air enters the pipes G through a pipe, G′, and escapes through a pipe, G^2. A draft is preferably formed through the chamber by means of a fan, H, and pipe, H′. (See Figs. 1 and 2.) The tobacco waste to be treated is placed upon the apron and conveyed through the drying-chamber. For convenience in placing the waste on the belt, I locate a table, I, at the forward end of the apparatus upon which the waste may be placed and spread out before being shoved onto the traveling belt. While passing through the drying-chamber the waste of course becomes heated, so that it is necessary or desirable to cool it before it reaches the separator. For this purpose the belt or apron extends beyond the box, as shown in Figs. 1 and 2, so that the waste is cooled by being exposed to the atmosphere after it leaves the box and before it leaves the apron. The apron is moved by power to be applied to one of the drums B. The waste is discharged from the apron into the hopper J of the separating apparatus. The hopper is located over a cylinder and concave, L, (see Fig. 4,) provided with teeth similar to those of a thrashing-machine and located in a casing, M, at the bottom of which is a screw conveyer, N. As the waste passes between the cylinder and concave, the blade portions upon the stems are stripped off and the stems more or less broken up into small pieces. The mass is conveyed from the casing M by the screw N, and discharged into a chamber or shaft, O, where a separation of the stems and valuable parts takes place, the former dropping by gravity into the boot of the shaft, as shown by full arrows, Fig. 3, and the latter being carried up the shaft by a draft created by a suction or draft-fan. (See broken arrows, Fig. 3.)

The stems may be removed from the shaft by any suitable means. I have shown a belt conveyer, P, which can be made to transfer them to any desired point. I prefer to use a suction-fan, Q, connected to the shaft by a flue or pipe, T, to form a draft through the shaft O, which would discharge its product into a room or chamber, U, (see Fig. 5,) which would have an escape, V, for the air. Openings Y are

made in the front of the shaft O for the entrance of air to feed the suction-fan.

The waste can be removed from the room U through an opening, U′, and is ready for the market.

I claim as my invention—

1. The process herein described for removing the blade portions from the stem portions in the utilization of tobacco-leaf waste, which consists in thoroughly drying the material to be treated, beating the material for causing the blade portions to become detached from the stem portions, and, finally, subjecting the material to a current of air for separating the blade portions from the stem portions, substantially as described.

2. The process herein described for removing the blade portions from the stem portions in the utilization of tobacco-leaf waste, which consists in thoroughly drying the material to be treated, beating the material for breaking up the stem portions and causing the blade portions to become detached from the stem portions, and, finally, subjecting the material to a current of air for separating the blade portions from the stem portions, substantially as described.

3. The process herein described of removing scraps of tobacco from the stem portion, which consists in first drying the tobacco, then exposing it to the atmosphere to render it brittle, then beating it so as to detach the fragments of leaf from the stems, and, finally, separating the said fragments from the heavier stem portion by air-currents, substantially as set forth.

JAMES T. DRUMMOND.

In presence of—

GEO. H. KNIGHT,

SAML. KNIGHT.