(No Model.) 3 Sheets—Sheet 1.

E. HADRA.

CIGAR COLORING AND FLAVORING MACHINE.

No. 275,646. Patented Apr. 10, 1883.

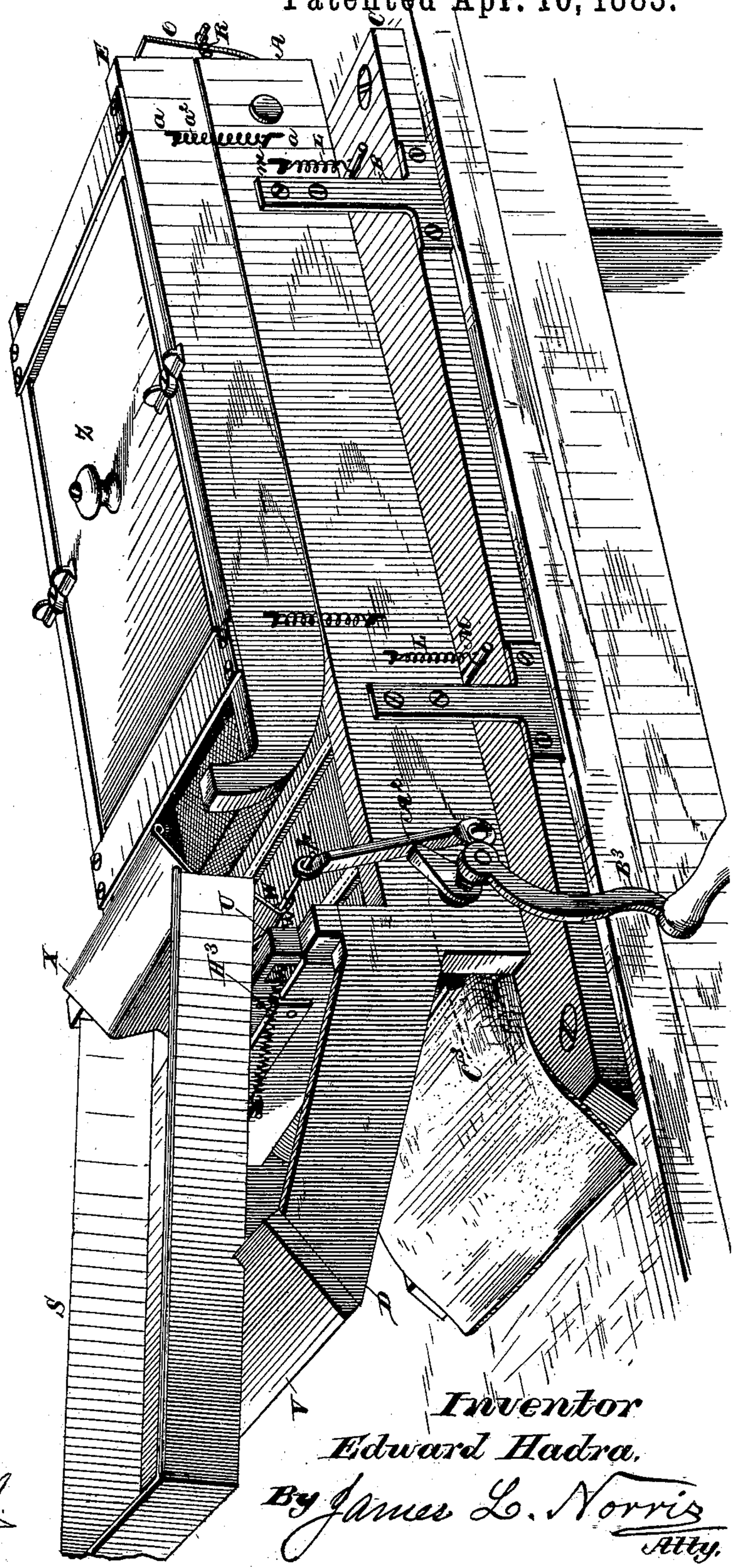


Fig. 1.

Witnesses.
Robert Everett.
J. A. Rutherford.

Inventor
Edward Hadra.
By James L. Norris
Atty.

(No Model.) 3 Sheets—Sheet 2.

E. HADRA.

CIGAR COLORING AND FLAVORING MACHINE.

No. 275,646. Patented Apr. 10, 1883.

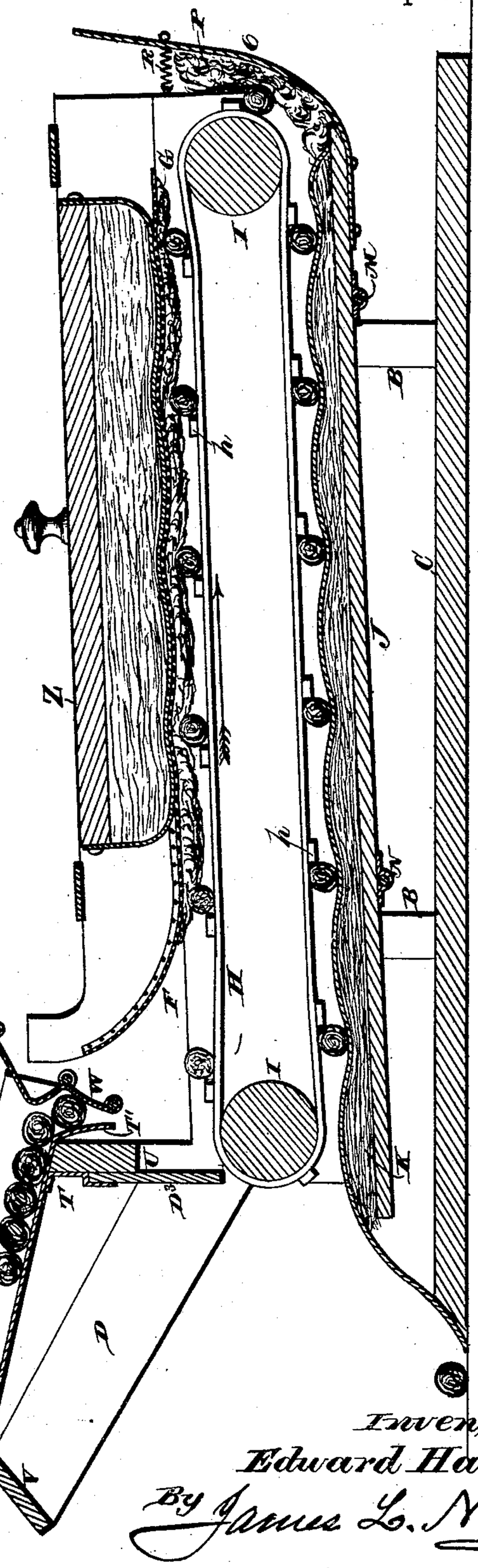


Fig. 2.

Witnesses.
Robert Everett.
J. A. Rutherford.

Inventor.
Edward Hadra.
By James L. Norris.
Atty.

(No Model.) 3 Sheets—Sheet 3.

E. HADRA.

CIGAR COLORING AND FLAVORING MACHINE.

No. 275,646. Patented Apr. 10, 1883.

Fig. 3.

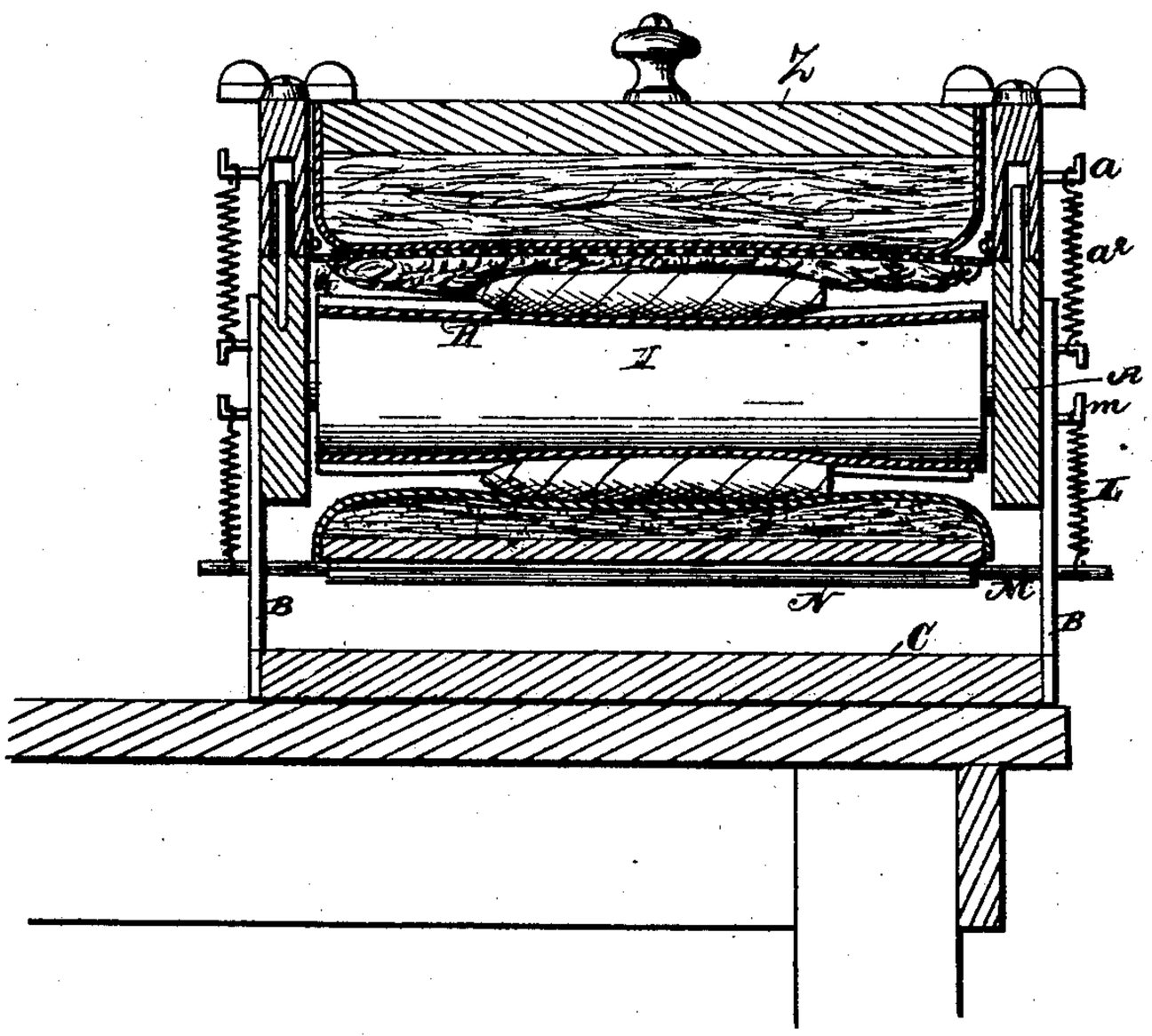
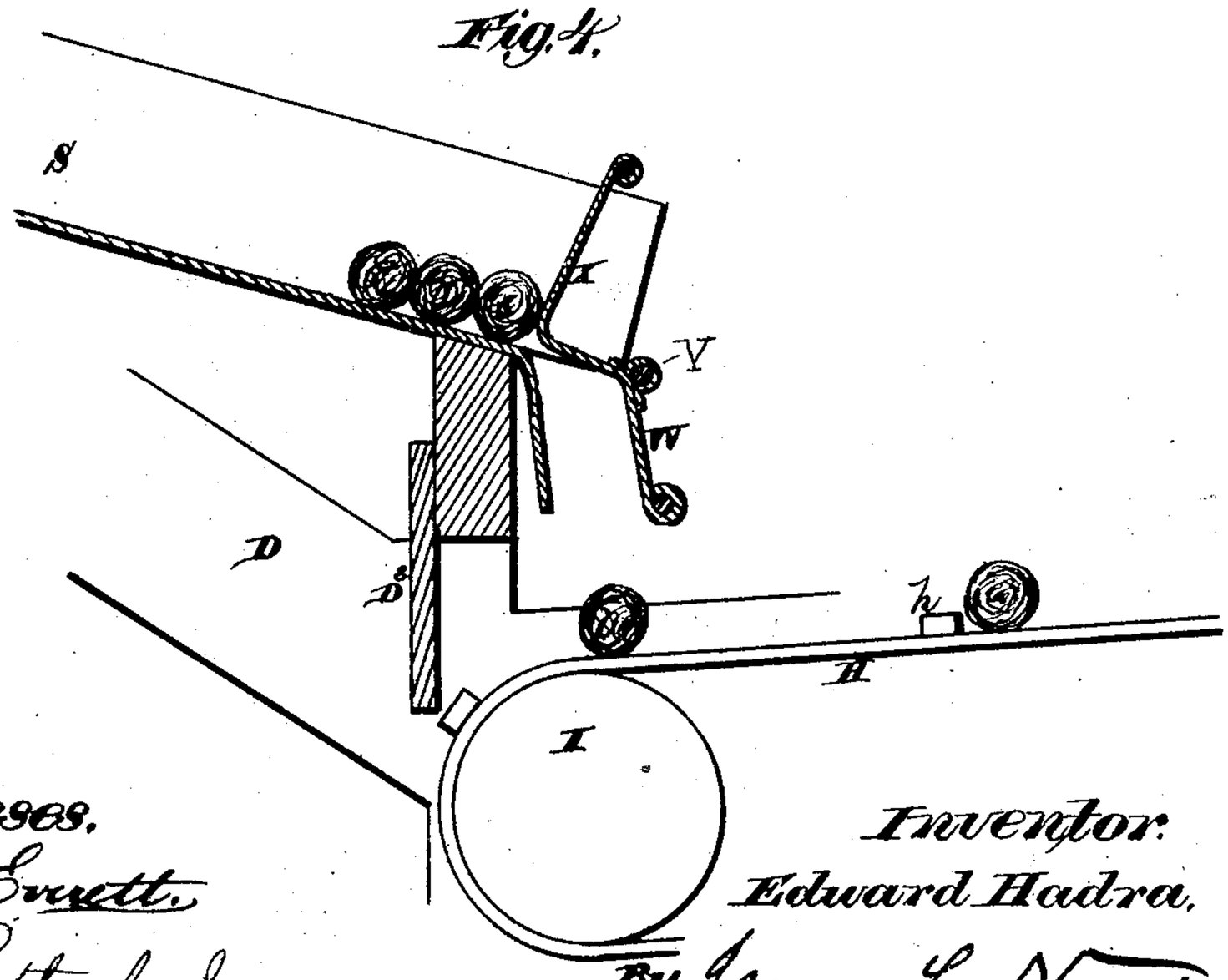


Fig. 4.



Witnesses.
Robt Ewett.
J. A. Rutherford

Inventor:
Edward Hadra,
By James L. Norris.
Atty.

UNITED STATES PATENT OFFICE.

EDWARD HADRA, OF CUMBERLAND, MARYLAND.

CIGAR COLORING AND FLAVORING MACHINE.

SPECIFICATION forming part of Letters Patent No. 275,646, dated April 10, 1883.

Application filed January 16, 1883. (No model.)

To all whom it may concern:

Be it known that I, EDWARD HADRA, a citizen of the United States, residing at Cumberland, Alleghany county, and State of Maryland, have invented new and useful Improvements in Machines for Coloring and Flavoring Cigars, of which the following is a specification.

The object of the present invention is to furnish a machine for coloring and flavoring cigars in which the operation of applying, distributing, and removing the surplus liquid coloring-matter to and from the surface of the cigars is performed in a more simple, effective, and satisfactory manner than by any other machine heretofore devised for a like purpose, special provision being also made for isolating the cigars from each other during the coloring operation, and supplying the same to the coloring devices at intervals, or one cigar at a time.

The invention consists, first, in the combination of an upper bibulous or absorbent pad which is saturated or supplied with a coloring substance or compound, an endless intermediate traveling apron having transverse ribs for preventing the cigars from coming in contact with each other, a wiping sheet or surface located at the rear end of the machine or apron, and a lower pad having an elastic or yielding surface. The cigars which are fed upon the endless apron at the front end of the machine are conducted by said apron beneath the absorbent pad charged with the coloring material, are then brought in contact with the wiping sheet or surface for removing any surplus coloring material, and finally are fed by the apron over the bottom pad, which serves to rub the coloring material into the cigars, so that the latter will come out at the front end of the machine in a dry condition.

The invention also consists in a feeding and cut-off device of a novel construction, which is combined with the shaft of the endless apron, so as to be operated thereby and deliver to said apron one cigar at a time at regular intervals.

The invention also consists in certain minor details of construction, which will be fully described hereinafter, and then set forth in the claims.

In the drawings, Figure 1 is a perspective view of a machine constructed according to my present invention. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a transverse section thereof. Fig. 4 is a detail view of the feed-hopper, cut-off device, and conveyer-belt.

The frame of the machine consists of the longitudinal boards or beams A, metallic standards or feet B, for securing the same to a suitable base-board, C, or to the work-table, and inclined extensions or arms D at the front of the machine, for supporting the feeding devices, as will be hereinafter explained. A supplementary or independent frame, E, is supported upon the beams A of the base or stationary main frame, and is connected thereto by means of spiral springs a^2, fitted on hooks a, projecting from the two frames. In place of the spiral springs, I may use rubber bands or other springs capable of being easily detached from either frame for the purpose of permitting the removal of the frame E. The latter has secured to its bottom a flexible sheet, F, of webbing, wire-gauze, or other absorbent or foraminous material, and this sheet F is provided with a covering, G, of fragmentary sponge, felt, or other analogous material capable of holding in absorption a proper supply or quantity of the coloring liquid or compound commonly used for coloring cigars. The coloring-liquid is placed in the space above the sheet, and percolates through the same, a pad, Z, being used for exerting the necessary pressure.

An endless apron, H, made of metal, rubber, leather, or other material of an elastic and non-absorbent nature, is located beneath the absorbent pad formed by the sheet F and its covering G. This apron H extends the entire length of the base-frame, and passes around rollers I, having its bearings in the end portions of said frame. The upper surface of the apron or belt is provided with transverse ribs or projections h, which are of such a height or size that a cell is formed between each adjoining pair of ribs, for the object hereinafter

stated. An elastic or yielding platform, J, having a pad or yielding surface covering, K, is located beneath the endless apron, and is held in contact therewith or is pressed upward against the same by means of spiral springs L, or by rubber bands slipped onto hooks *m* on the base-frame, and metallic rods or wires M, projecting from the sides of the platform J. These rods or wires are slipped into loops or keepers N on the under side of the platform, and can be withdrawn therefrom, so as to permit the platform J to be removed or drawn out from the frame for cleaning purposes, removing obstructions, &c. A metal sheet or plate, O, rises from the rear end of the platform J, being secured thereto at its lower edge. The inner face of the plate O, or the side thereof adjoining the rear end of the endless apron, is provided with an absorbent covering, P, of sponge or other appropriate material. Rods or pins projecting from the sides of the free upper portion of the plate O are connected with springs R, which are secured to the ends of the beams of the base-frame. The connection of the platform J and plate O with the base-frame, as above stated, will permit these parts to have a vertical and longitudinal movement in relation to the base-frame and endless apron; or, in other words, the platform and its end plate covered with the absorbent material are permitted to yield in the directions stated, to adapt themselves with a varying or yielding pressure to the size or contour of the cigars passing through the machine.

An inclined tray or hopper, S, mounted upon the inclined arms D at the front of the base-frame, is provided with bottom flanges or plates, T T′, which embrace a transverse bar or bridge, U, spanning the space between said arms, and secured thereto. The object of these plates and suitable rivets or screws passed through the plate T is to secure the lower or discharge end of the tray to the bridge U, and a second bridge, V, at the rear end of the arms supports the upper end of the tray.

A combined discharge-gate, W, and cut-off, X, is made of an angular metal plate, which turns on a fulcrum-rod, Y, having its bearings in the side walls of the tray at the lower or discharge end thereof. A rod, *p*, projecting from one of the side edges of the discharge-gate W, is connected with the top of an upright lever, A^2, pivoted at its lower end to the frame A. The shaft of the driving-roller projects beyond said frame in proper relation to the lever A^2, and carries a driving-crank, B^3, and a tappet or arm, C^3, as is clearly shown in Fig. 1. When the roller-shaft is rotated, the tappet is periodically caused to bear upon the lever A^3, thus vibrating the same and throwing the discharge-gate and cut-off into the position shown in Fig. 4. It will be apparent that when the gate is thus opened or moved from the normal position shown in Fig. 2 a single cigar is permitted to drop down upon the conveyer-belt. A spring serves to return the gate to its normal position after the pressure of the tappet upon the lever is removed. The plate T′ and the gate constitute a guide throat or passage through which the cigar is conducted in its delivery to the apron. A bridge or guard wall, D^3, located in front of the apron, serves to prevent the cigars from dropping from said apron.

The operation of the machine has been incidentally set forth in describing the construction thereof; but I wish to add, briefly, that in the present machine the cigars are periodically delivered to the conveyer-apron by a feed device operated from the driving-shaft of said apron, and that the ribs or projections on the latter are so disposed at regular intervals apart that a single cigar is always caused to drop onto the apron between each pair of ribs. In this manner the cigars are held apart from each other, so as to avoid the rotation of the same in contact with each other, as is the case in machines heretofore devised. The cigars, after having passed beneath the absorbent pad charged with the coloring-liquid, are conducted over the wiping-surface at the rear of the machine, and then they are propelled forward by the movement of the apron and its projecting ribs over the pad or platform covered with the elastic or fibrous material. During the passage of the cigars between the apron and said platform the cigars are continuously rolled or turned axially, so that the coloring-liquid will be effectually rubbed into the cigars and the latter finally pass out at the front of the machine in a dry condition.

Having thus described my invention, what I claim is—

1. In a machine for coloring and flavoring cigars, the combination of an upper absorbent pad for applying the coloring-liquid, an intermediate traveling conveyer-apron, and a yielding platform or pad arranged beneath the conveyer-apron, substantially as and for the purpose set forth.

2. The yielding platform or pad having an end plate covered with an absorbent material, in combination with an endless conveyer-apron arranged above said platform or pad, and means, substantially as shown, for applying the coloring-liquid upon the cigars carried forward by the conveyer-apron, as and for the purpose set forth.

3. The combination of an endless traveling conveyer-apron, having transverse ribs or projections, with a feed hopper or tray, and means, substantially as described, for applying the coloring-liquid and wiping the cigars, as herein set forth.

4. The combination of the feed-hopper having an automatic delivery-gate and cut-off, and an endless conveyer-apron, with devices, substantially as shown, for actuating said delivery-gate and cut-off from the shaft of the conveyer-apron, and means for applying the coloring-liquid to the cigars and wiping the latter, as and for the object stated.

5. The combination of the vertical lever, the cut-off and delivery-gate having a projecting rod, and retracting or closing spring, with the endless conveyer-apron, its shaft and a tappet mounted thereon, and the feed hopper or tray, substantially as and for the purpose set forth.

6. The combination of the pressure-pad with the flexible apron having an absorbent covering, its holding-frame, and endless apron for conveying the cigars beneath said absorbent surface, as and for the purpose set forth.

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

EDWARD HADRA.

Witnesses:

JAMES L. NORRIS,

J. A. RUTHERFORD.