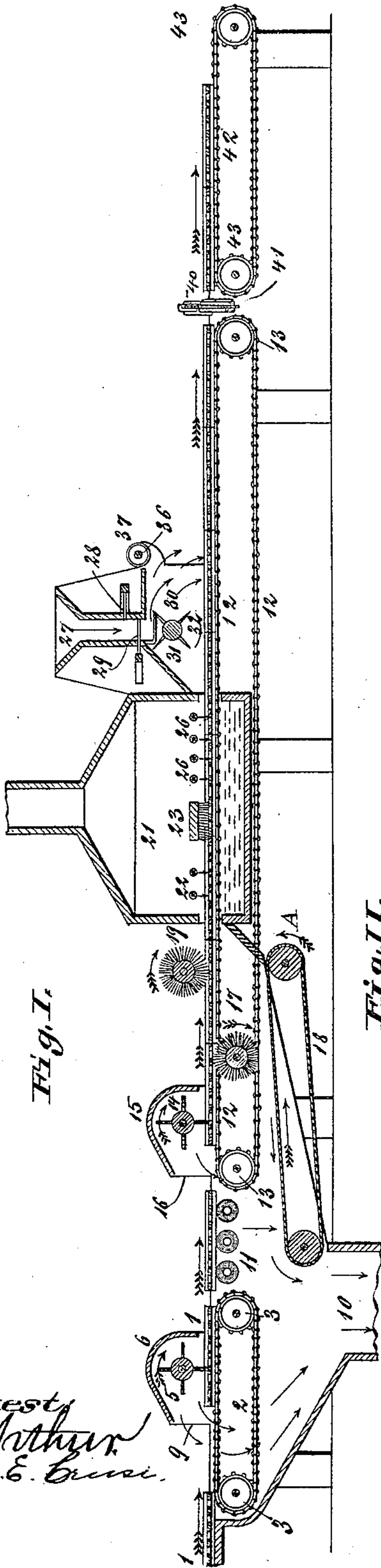


(No Model.)

R. B. DULA.
MACHINE FOR CLEANING TOBACCO RACKS.

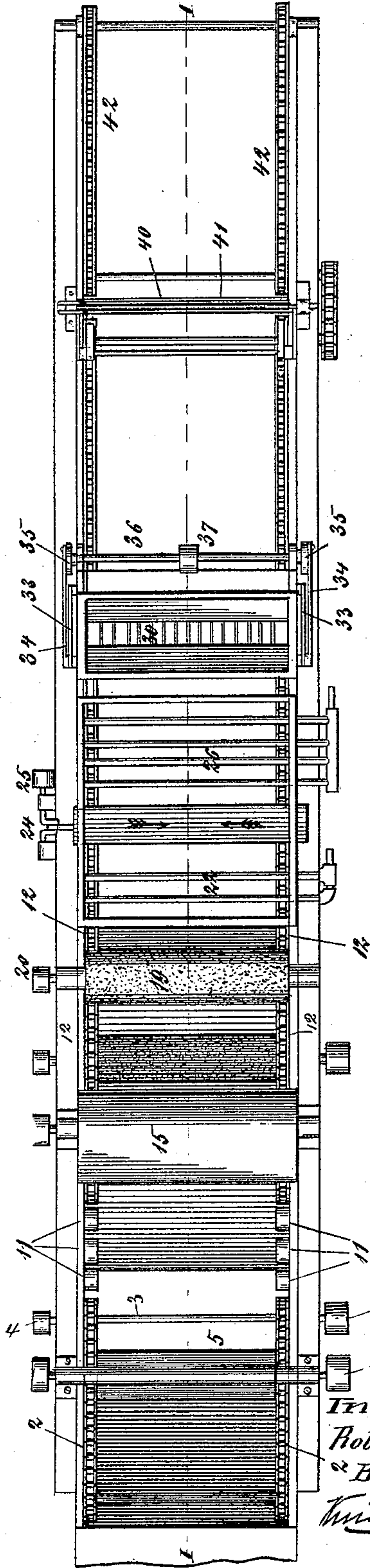
No. 460,002.

Patented Sept. 22, 1891.



Attest
E. Arthur
Geo. E. Bursi.

Fig. II.



Inventor:
Robt. B. Dula
By
Knight Bros
Atty's

UNITED STATES PATENT OFFICE.

ROBERT B. DULA, OF ST. LOUIS, MISSOURI.

MACHINE FOR CLEANING TOBACCO-RACKS.

SPECIFICATION forming part of Letters Patent No. 460,002, dated September 22, 1891.

Application filed August 24, 1889. Serial No. 321,889. (No model.)

To all whom it may concern:

Be it known that I, ROBERT B. DULA, of the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Machines for Cleaning Tobacco-Racks, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to an improved machine for cleaning tobacco-racks in the manufacture of tobacco; and my invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is a longitudinal section through my improved machine. Fig. II is a top view with parts removed.

Referring to the drawings, 1 represents a number of racks, upon which the tobacco, in leaf form, is placed.

2 represents a pair of endless belts, one at each side of the machine, upon which the racks are placed with the tobacco upon them. The belts are supported on wheels or rollers 3, around which they pass, and the shaft of one of these wheels or rollers is provided with a pulley 4 to receive a driving-belt. (Not shown.) Over the belts 2 is a rotary brush 5, journaled in and inclosed by a housing 6. (The housing 6 is not shown in Fig. II.) The shaft of the brush is provided with a pulley 7, which would be connected by a suitable driving-belt to a pulley 8 on the shaft of one pair of the wheels or rollers 3. As the racks are carried by the belts 2 beneath the brush, the latter is revolved in the direction indicated by the full arrow in Fig. I, which removes the tobacco from the racks and throws it, as shown by the featherless arrows, through the open end 9 of the housing 6, and from here it drops between the belts into a chute 10. From the apron 2 the racks pass onto rollers 11, and from here onto a pair of endless belts or chains 12, each rack shoving the preceding one from the rollers 11 onto the belts 12, or one of the rollers may be made to revolve by a suitable pulley-and-belt connection. The belts 12 are supported by wheels or rollers 13, around which they pass, and one or both of the rollers 13 is provided with suitable belt-and-pulley connections, by which the belts 12 are operated. The racks are carried by the belts 12 beneath

a brush 14, inclosed by a housing 15. This brush revolves in the direction indicated by the arrow in Fig. I, and its function is to remove any small particles of tobacco that may be left on the racks, throwing these particles out through the open end 16 of the housing 15, from where they drop down between the belts and into the chute 10. Beyond the brush 15 and beneath the racks may be placed a brush 17, driven by suitable belt-and-pulley connections, and which is designed to clean the bottom of the racks of any small particles of tobacco that may be adhering thereto. I prefer to place beneath these brushes 14 and 17 an endless apron 18, which moves in the direction indicated by the arrow A, Fig. I, and which carries the tobacco that may fall from these brushes to the vertical portion of the chute 10.

19 represents a brush under which the racks are carried by the belts 12, and which is designed to remove any small particles that may be left on the racks. It is provided with a pulley 20 to receive an operating-belt. From the brush 19 the racks are carried into a casing or housing 21, (not shown in Fig. II,) where they are first cleaned by hot water discharged onto them through perforated pipes 22, and are then passed under a reciprocating brush 23, which is moved back and forth transversely of the machine by suitable means. I have shown it operated by means of a crank-shaft 24, (see Fig. II,) provided with an operating-pulley 25 to receive a driving-belt. This brush moves back and forth, as shown by the arrows in Fig. II. The function of this brush is to thoroughly rub the racks, which then pass beneath perforated pipes 26, through which dry steam is discharged onto the racks, and then the apron or chains 12 carry the racks from the housing 21 beneath a device which covers the racks again with tobacco. The device I have shown for doing this consists of a hopper 27, into which the tobacco is placed and which is provided with automatically-operated valves 28 and 29, and which is also provided at its bottom with a comb 30, onto which the tobacco falls and from which it is removed by a shaft or cylinder 31, provided with prongs 32, which pass through the comb, as shown in Fig. I. The valves 28 and 29 operate inter-

mittingly—that is, the valve 28 is pulled out first, as shown in Fig. I, while the valve 29 remains in its inner position. This allows a portion of the tobacco to fall onto the valve 29. The valve 28 then returns and the valve 29 opens, allowing the tobacco between the valves to fall onto the comb 30, while the valve 28 shuts off the supply of tobacco above it. I thus regulate the amount of tobacco falling onto the comb. My preferred manner of operating the valves is to connect them by links 33 and to connect one of them by means of links 34 to cranks or eccentrics 35 on an operating-shaft 36, provided with a driving-pulley 37. A full description of the operation of these valves and the other parts associated with them and claims on such construction appear in another application, Serial No. 321,888, filed August 24, 1889. From this loading device the racks are carried forward under an oscillating knife 40 and over a cutting-block 41. Beyond the knife and block are a pair of belts 42, supported on operating wheels or rollers 43. These belts 42 are made to move at a higher rate of speed than the belts 12, so that as the racks are moved onto them they will be carried along faster, and a space will be left between each rack on the belts 42 and the last rack on the belts 12 to provide an opportunity for the knife to cut the tobacco between the racks. As the racks are moved along by the carrying-belts the knife descends each time a rack passes and severs the tobacco which may be lapping from one rack onto another. I prefer to make the cutting-block 41 movable as well as the knife, the knife moving downward and the block upward.

I claim as my invention—

1. The combination of a chute, the rollers journaled over the chute, the rack-carrying belts mounted on the rollers and located on opposite sides of the chute, and a rotary brush journaled over the belts for removing the tobacco from the racks and throwing it rearward, where it drops between the belts into the chute, substantially as described.

2. The combination of a chute, the rollers journaled over the chute, the rack-carrying belts mounted on the rollers and located on opposite sides of the chute, a rotary brush journaled over the belts for removing the tobacco from the racks and throwing it rearward, where it drops between the belts into the chute, and a housing inclosing the brush, having an opening through which the tobacco is discharged, substantially as described.

3. The combination of a chute, the outer rollers 3, the outer paired belts 2, the outer rotary brush 5, the inner rollers 13, the inner paired belts 12, and the inner rotary brush 14, substantially as described.

4. The combination of a chute, the outer and inner rollers, the outer and inner paired belts, the outer and inner rotary brushes, and the outer and inner housings having open-

ings through which the material is thrown by the brushes from the racks rearward, where it drops between the respective belts into the chute, substantially as described.

5. The combination of a chute, the carrying paired belts 2 and 12, intermediate rollers 11, brushes 5 and 14, located over the chute, and housings by which the brushes are inclosed, substantially as described.

6. The combination of a chute, the inner rollers, the inner paired belts, the inner rotary brush, and the upper and lower rotary cleaning-brushes located in advance of the inner rotary brush, substantially as described.

7. The combination of a chute, the outer and inner rollers, the outer and inner paired belts, the outer and inner rotary brushes, and the upper and lower cleaning-brushes located in advance of the inner rotary brush, substantially as described.

8. The combination of the carrying-belts, a rotary brush for removing the material from the racks, a cleaning-brush located in advance of the rotary brush, and washing and steaming devices located in advance of the cleaning-brush, substantially as described.

9. The combination of carrying paired belts, the outer and inner rotary brushes for removing the material from the racks, a chute into which the material is discharged, and an endless apron within the chute beneath the space between the belts, substantially as described.

10. The combination of carrying paired belts, the outer and inner rotary brushes, a chute, cleaning-brushes located in advance of the inner brush, and an endless apron within the chute beneath the space between the belts and cleaning-brushes, substantially as described.

11. The combination of carrying-belts, brushes for removing the tobacco from the supporting-racks, a housing, and perforated water-pipes located in the housing for washing the racks, substantially as described.

12. The combination of carrying-belts, brushes for removing the tobacco from the racks, a housing, perforated pipes for discharging water onto the racks, and a brush for rubbing the racks, said pipes and rubbing-brush being located within said housing, substantially as described.

13. The combination of carrying-belts, brushes for removing the tobacco from the racks, a housing, and perforated steam-pipes located within the housing, substantially as described.

14. The combination of carrying-belts, brushes for removing the tobacco from the racks, a housing, and perforated steam and water pipes located within the housing, substantially as described.

ROBT. B. DULA.

In presence of—

E. S. KNIGHT,
THOS. KNIGHT.