

(No Model.)

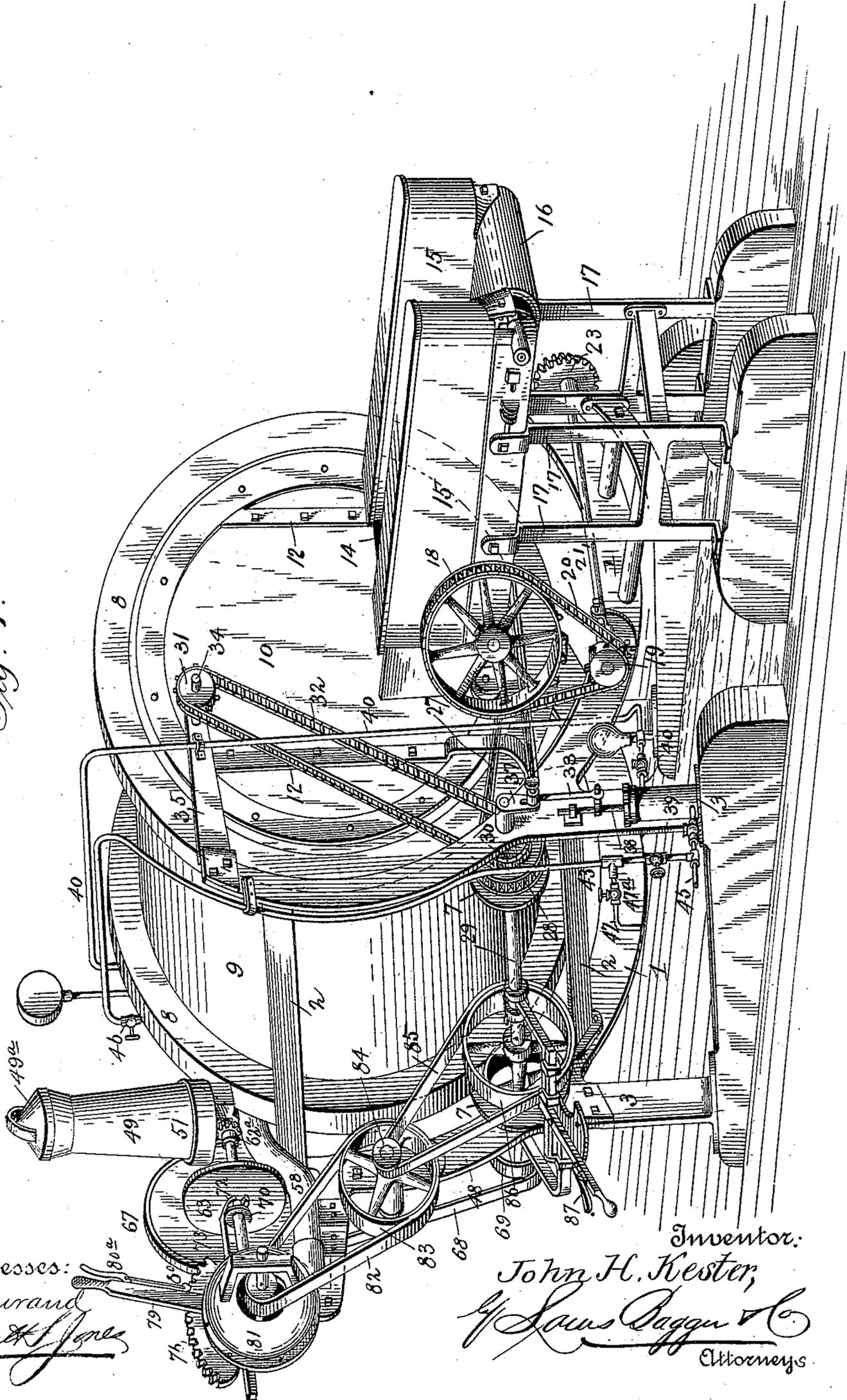
3 Sheets—Sheet 1.

J. H. KESTER.  
TOBACCO CASING AND FLAVORING MACHINE.

No. 556,989.

Patented Mar. 24, 1896.

*Fig. 1.*



Witnesses:  
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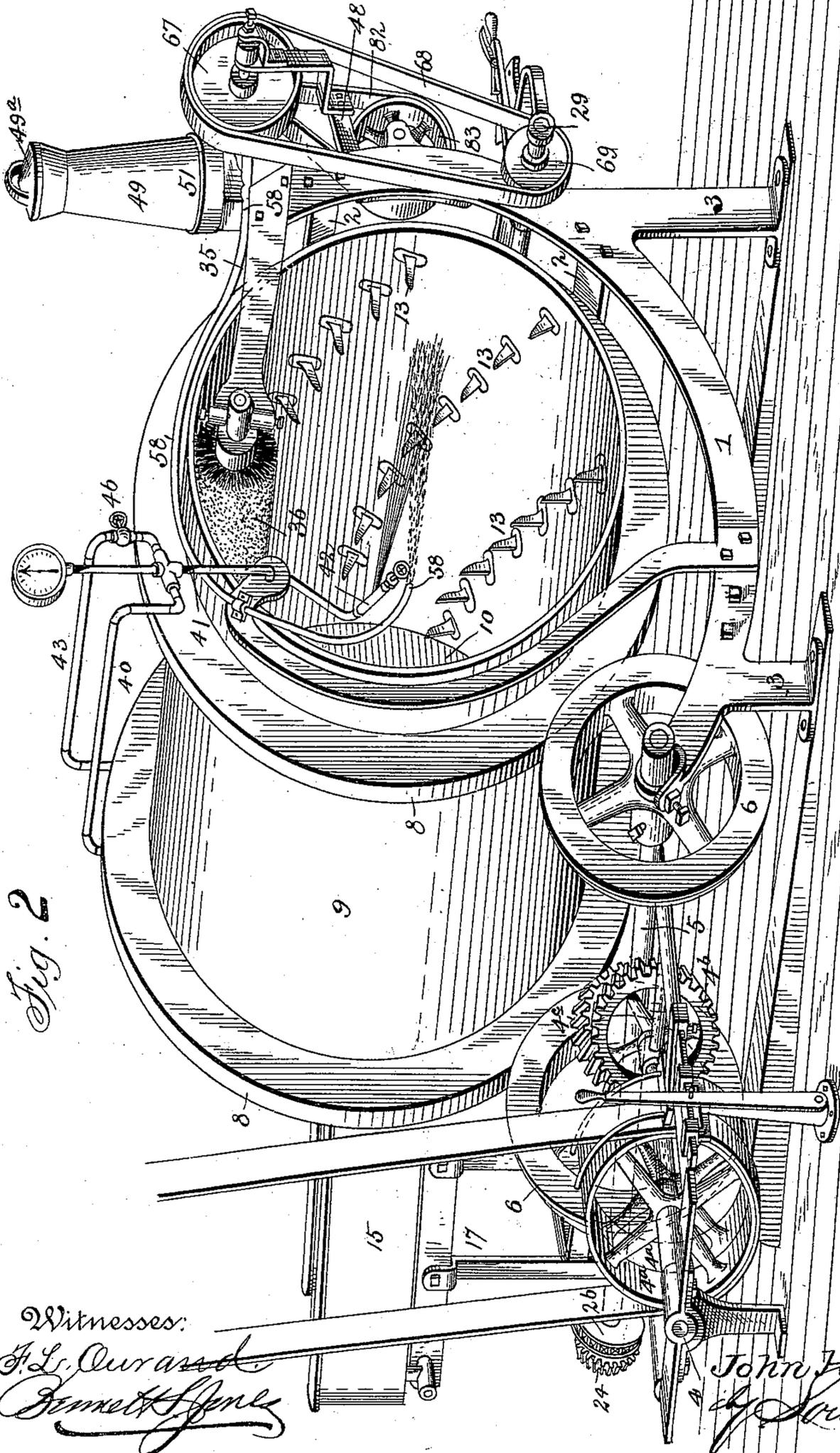


Fig. 2

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(No Model.)

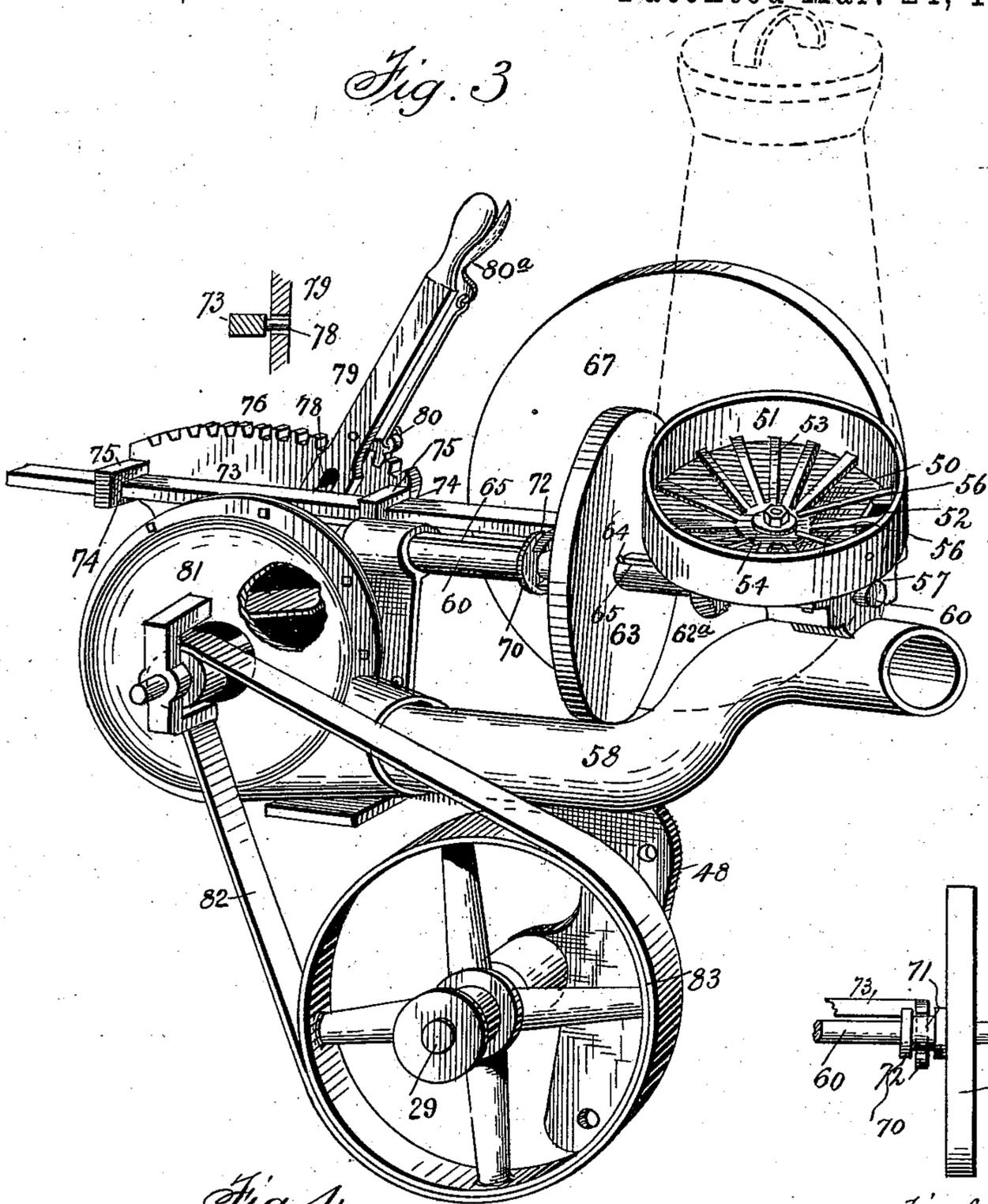
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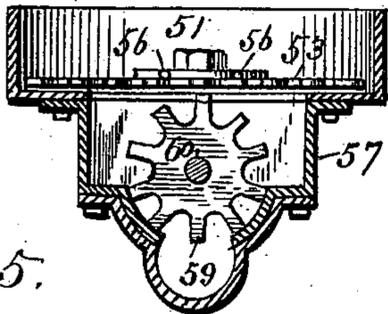
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*Fig. 3*

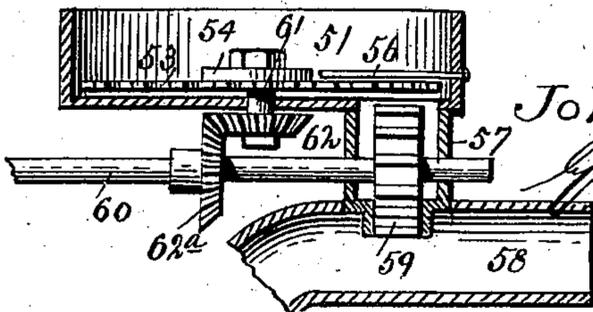


*Fig. 4.*

*Fig. 6.*



*Fig. 5.*



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# UNITED STATES PATENT OFFICE.

JOHN H. KESTER, OF WINSTON, NORTH CAROLINA.

## TOBACCO CASING AND FLAVORING MACHINE.

SPECIFICATION forming part of Letters Patent No. 556,989, dated March 24, 1896.

Application filed September 11, 1895. Serial No. 562,203. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN H. KESTER, a citizen of the United States, and a resident of Winston, in the county of Forsyth and State of North Carolina, have invented certain new and useful Improvements in Tobacco Casing and Flavoring Machines; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to improvements in machines for casing and flavoring tobacco, and its object is to provide improved means for feeding dry, pulverized or powdered flavoring material to the tobacco, and for feeding both dry and liquid material, as may be desired.

The invention consists in the novel construction and combination of parts hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a perspective view of a tobacco casing and flavoring machine constructed in accordance with my invention. Fig. 2 is a similar view, looking from the opposite end. Fig. 3 is a perspective view, on an enlarged scale, of the means for feeding dry flavoring material. Fig. 4 is a transverse section of the force-feed devices. Fig. 5 is a longitudinal section of the same. Fig. 6 is a detail elevation of the friction-disk.

In the said drawings, referring now to Figs. 1 and 2, the reference-numeral 1 designates two curved frames connected together by struts 2 and provided with legs 3.

The numeral 4 designates a driving-shaft, provided with a fast and loose pulley 4<sup>a</sup> and a shifting mechanism for throwing the machine into and out of operation, which may be of any ordinary or suitable construction. This shaft is provided with a bevel-gear 4<sup>b</sup>, meshing with a similar gear 4<sup>c</sup> on a shaft 5. Secured to this shaft are flanged wheels 6, and at the opposite side of said frame is a shaft 29, on which are loosely mounted similar wheels 7. These wheels engage with the peripheral rims 8 of a drum 9, the construction being such that when the driving-shaft is rotated a corresponding movement will be

imparted to the drum, and the flanges of the wheels, engaging with the outer sides of the rims, will hold the drum against lateral movement. This drum is opened at the rear end and closed by means of a stationary head 10, which, however, is not connected with the drum, but bolted to standards 12, secured to the said struts. By this construction the drum is entirely separate from the head, so as to be rotatable, while the head is stationary.

Secured to the inner surface of the drum is a series of pins 13, arranged in spiral rows, so that the tobacco fed to the drum is carried up and tumbled and gradually fed to the rear or open end of the drum.

At or near the center of the stationary head is a feed-opening 14, through which the tobacco from the feeding-aprons 15 and 16 is delivered to the drum. These feed-aprons are supported upon a frame 17 and pass around vertical and horizontal rollers (not shown) driven by sprocket-wheels 18 and 19 and sprocket-chain 20. The sprocket-wheel 19 is secured to a shaft 21, provided at its opposite end with a bevel cog-wheel 23, meshing with a similar wheel 24 on the shaft 5. This shaft 5 is provided with a sprocket-wheel 26, around which passes a sprocket-chain 27, also passing around another sprocket-wheel 28 on the shaft 29, which is provided with a sprocket-wheel 30, connected with a sprocket-wheel 31 by means of a chain 32. This sprocket-wheel 31 is secured to one end of a shaft 34, journaled in brackets 35 of a rotatable brush 36, which contacts with the interior of the drum.

One end of shaft 29 is provided with a crank 37, connected by a pitman 33 with the pump-rod 38 of a liquid-pump 39. This pump is connected with a source of liquid flavoring material and is provided with a feed-pump 40, leading to the upper rear end of the apparatus, where it is connected with a pipe 41, which passes through the open end of the drum into the interior thereof, and its extremity is provided with a sprayer or atomizer 42. Also connected with said pipe 41 is a return-pipe 43, which extends to the inlet-pipe 45 of the pump. This pipe 43 is provided with a hand-valve 46, which, when closed, will cause the liquid forced by the pump to be expelled through the atomizer onto the tobacco in the

drum; but when it is desired that the liquid be not forced into the drum said valve is opened, when the liquid will circulate through the pipes 40, 41, and 43 and the pump. Pipe 43 is also provided with a draw-off pipe 47, having a hand-valve 47<sup>a</sup>.

The construction so far described is substantially like that shown and described in an application for Letters Patent filed by me June 10, 1895, Serial No. 552,318, and forms no part of my present invention.

I will now proceed to describe my present invention, which relates entirely to the means for forcing dry flavoring material to the tobacco in the drum.

Referring now to Figs. 1, 2, 3, 4, and 5, the reference-numeral 48 designates a bracket secured to one of the curved frames 1. Supported by this bracket is a receptacle for containing dry powdered flavoring material, consisting of a sheet-metal body 49, having a removable cover 49<sup>a</sup>, and a cast-metal bottom 50, provided with an annular upwardly-extending flange 51, within which the lower end of said body fits. This bottom is provided with a feed-opening 52.

The numeral 53 designates a rotatable force-feed wheel comprising a hub 54 formed with radial arms, which carry the powdered flavoring material to the feed-opening. Upon each side of said feed-opening is an inwardly-extending rod or pin 56, which shears off the flavoring material as the force-feed wheel is rotated, so as to insure said material being fed through the feed-opening. Below said feed-opening is a box 57 connected with a pipe 58, leading to the interior of the drum, and located in this box is a cogged feed-wheel 59, secured to a shaft 60, which feeds the material escaping through the feed-opening into the pipe. The lower part of said box is curved on the arc of a circle corresponding with said wheel, so that none of the material fed thereby can be blown back into the box.

The shaft 61 of wheel 53 is provided with a bevel-gear 62, which meshes with a corresponding gear 62<sup>a</sup> on the shaft 60. Mounted upon the said shaft 60 is a friction-disk 63, having a key or feather 64, adapted to engage with a groove 65 in said shaft. This friction-disk is free to slide laterally upon said shaft, but rotates therewith, and it contacts with the inner side of a wheel 67, journaled to the bracket 48 and connected by means of a belt 68 with a pulley 69 on the shaft 29, whereby said wheel is rotated, and by its frictional contact with the disk 63 and the shaft 60 the feeding devices operated accordingly. The hub 70 of the friction-disk is formed with an annular groove 71, with which engages the fork 72 of a shifting-bar 73, working in openings in lugs 75, secured to a racked segment 76, cast with or secured to the bracket 48. This bar is provided with a pin 78, which works in a slot in a lever 79, pivoted to said segment and provided with a pawl 80 and lever 80<sup>a</sup>, which is adapted to

engage with the racks of the segment and hold the lever and bar in place. By shifting this bar forward or back the friction-disk can be moved nearer to or farther from the center of the wheel 67, so as to decrease or increase the speed of the disk, and consequently of the feeding mechanism. Also supported by the said bracket 49 is a fan-blower 81, with which the pipe 58 is connected. This blower, which may be of any ordinary or suitable construction, is operated by means of a belt 82, connected with a pulley 83, the shaft of which is provided with a pulley 84, which in turn is connected by a belt 85 with a pulley 86 on the shaft 29.

The numeral 87 designates a clutch mechanism of any ordinary construction for throwing the feeding mechanism into and out of operation.

The operation is as follows: The receptacle for containing the powdered flavoring material is filled and the machine set in motion. The tobacco will be fed to the drum by the feed-aprons and will be caught by the pins and tumbled and agitated by the rotation of the drum. At the same time the flavoring mechanism will be set in motion and the powdered material will be carried by the feed-wheel into pipe 58, where it will meet the air-blast from the blower and be forced into the drum. This blast will clear the teeth of wheel 59 from this material, and as there is a tight joint between this wheel and the box no material can be blown back. The liquid flavoring material may also be fed to the drum at the same time, if desired, by means of the pump and connections.

Having thus fully described my invention, what I claim is—

1. In a tobacco casing and flavoring machine, the combination with the rotatable drum, of the bracket secured thereto, the receptacle for containing powdered flavoring material, having a feed-opening in its bottom, the rotatable hub and radial arms, the inwardly-extending rods or pins at the sides of the feed-opening, the rotatable feed-wheel below said receptacle, the box in which said feed-wheel is located, the pipe connected therewith and the fan-blower and means for operating the same, substantially as described.

2. In a tobacco casing and flavoring machine, the combination with the rotatable drum, of the bracket secured thereto, the receptacle for containing powdered flavoring material, having a feed-opening in its bottom, the rotatable hub having radial arms located in said receptacle, the inwardly-extending pins, the box located below said receptacle, the cogged feed-wheel located in said box and the pipe connected with said box and drum, substantially as described.

3. In a tobacco casing and flavoring machine, the combination with the rotatable drum, of the bracket secured thereto, the receptacle for containing powdered flavoring material supported by said bracket and hav-

ing a feed-opening in its bottom, the box lo-  
cated below said receptacle having curved  
sides, the pipe connected therewith leading to  
the drum, the feed-wheel located in said re-  
5 ceptacle, the bevel-gears and shaft, the in-  
wardly-extending pins, the cogged feed-wheel  
located in said box and secured to said shaft,  
the slidable friction-disk and means for actu-  
ating the same, the wheel with which said disk  
10 contacts and means for operating the same

and the fan-blower and means for operating  
it, substantially as described.

In testimony that I claim the foregoing as  
my own I have hereunto affixed my signature  
in presence of two witnesses.

JOHN H. KESTER.

Witnesses:

THEO. MUNGEN,  
BENNETT S. JONES.