(No Model.) 3 Sheets—Sheet 1.

J. T. CARTER.

TOBACCO SPRAYING MACHINE.

No. 446,247. Patented Feb. 10, 1891.

FIG. 1.

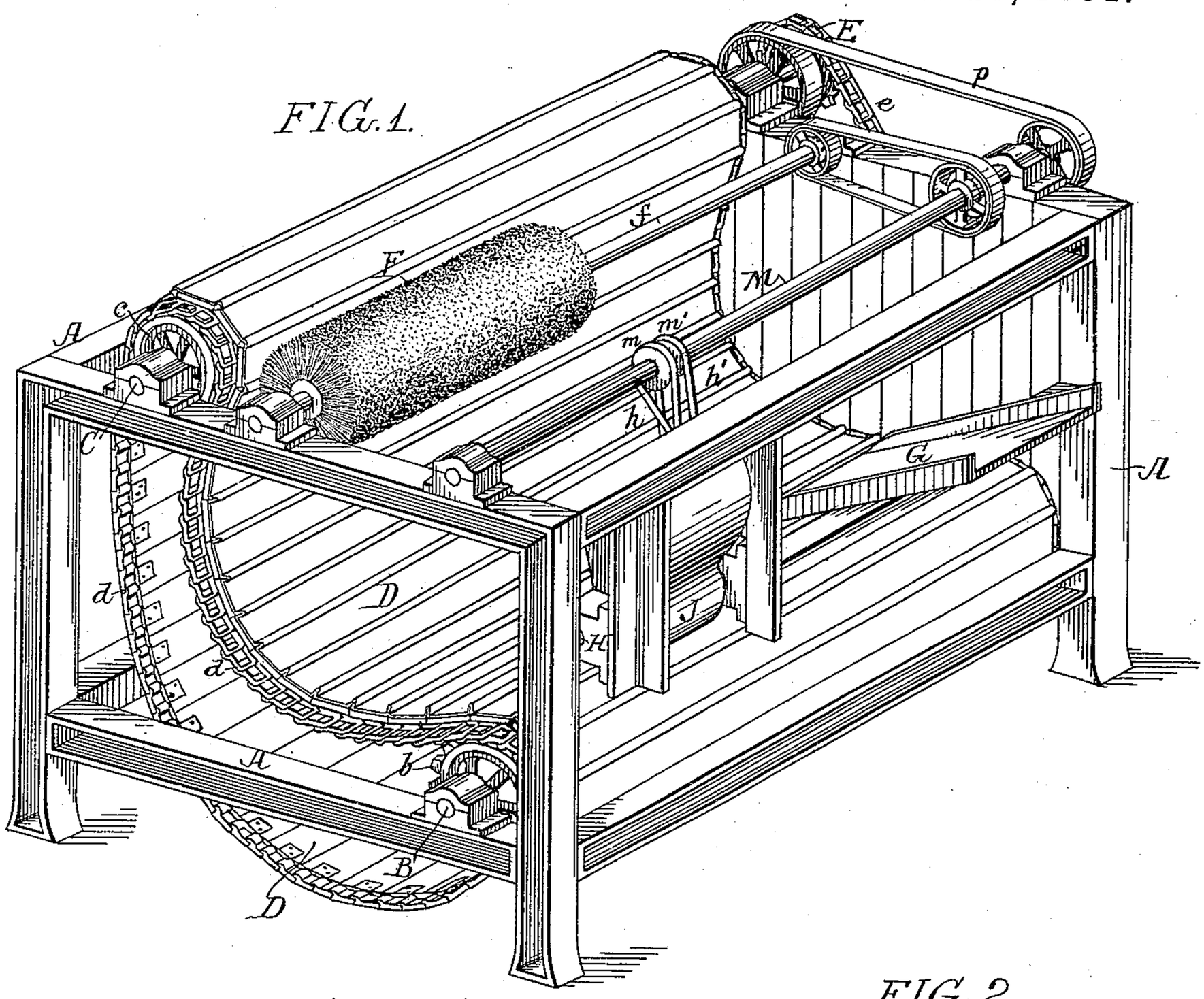
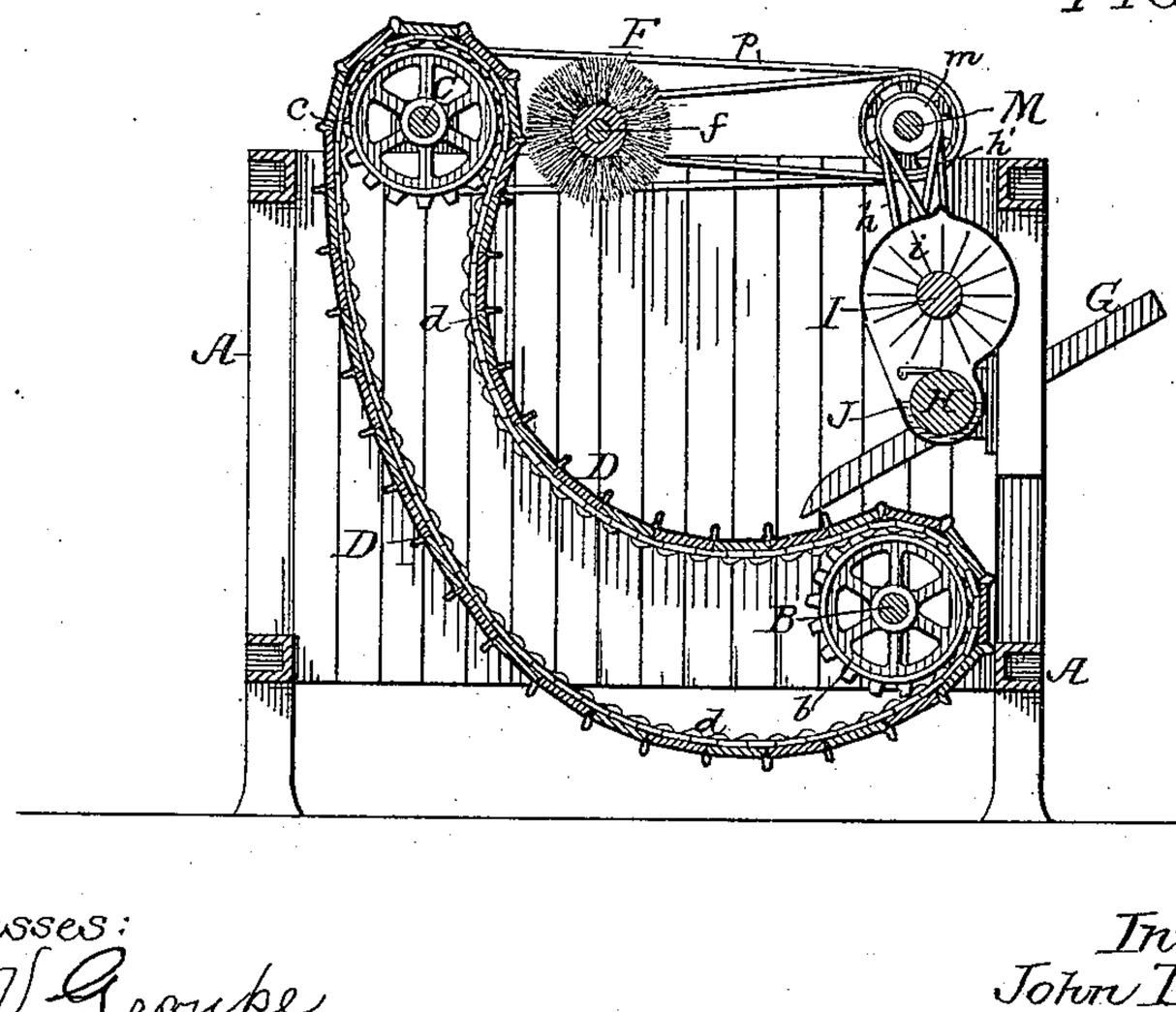


FIG. 2.



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Murray C. Boyer.

Inventor:
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by his Attorneys
Howson & Howson

(No Model.)

3 Sheets—Sheet 2.

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FIG. 3.

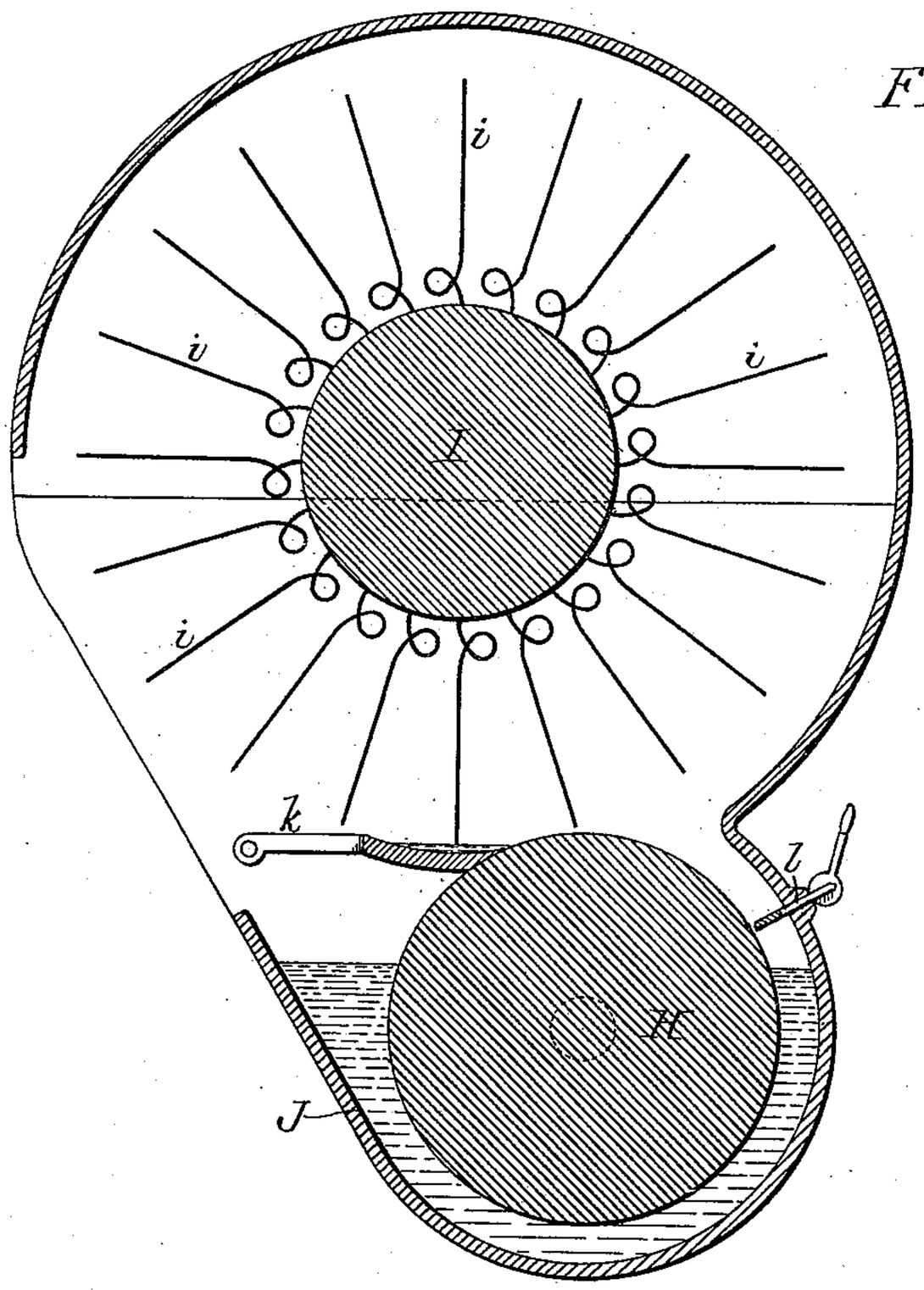
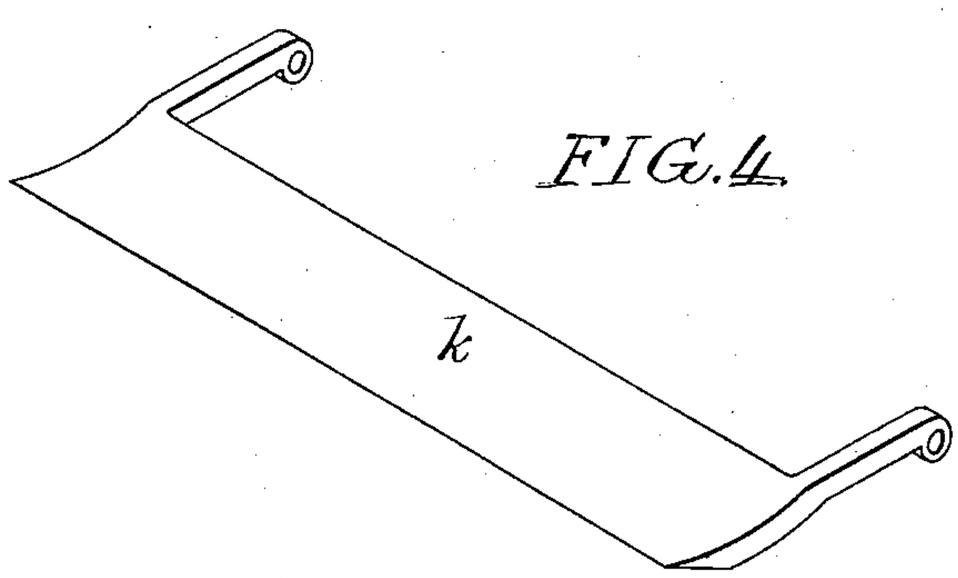


FIG. 4.



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(No Model.) 3 Sheets—Sheet 3.

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TOBACCO SPRAYING MACHINE.

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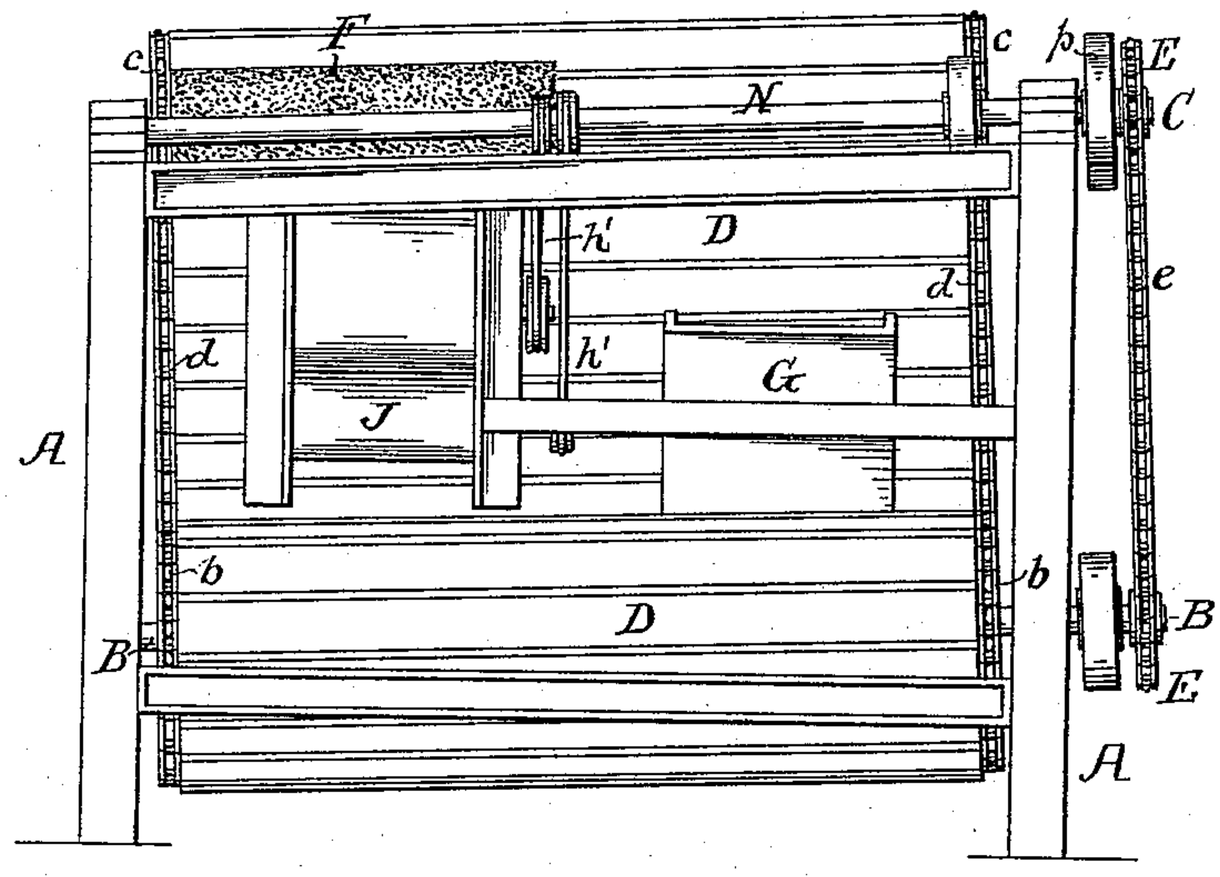
FIG. 5.



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UNITED STATES PATENT OFFICE.

JOHN THOMAS CARTER, OF NORTH DANVILLE, ASSIGNOR TO THE CARTER MACHINE COMPANY, OF DANVILLE, VIRGINIA.

TOBACCO-SPRAYING MACHINE.

SPECIFICATION forming part of Letters Patent No. 446,247, dated February 10, 1891.

Application filed June 13, 1890. Serial No. 355,322. (No model.)

To all whom it may concern:

Be it known that I, JOHN THOMAS CARTER, a citizen of the United States, and a resident of North Danville, Pittsylvania county, Virginia, have invented certain Improvements in Tobacco-Spraying Machines, of which the following is a specification.

My invention relates to that class of machines employed for moistening or flavoring leaf-tobacco, one of its objects being to provide a sprinkling or spraying device which will more thoroughly atomize the liquid employed than any that have hitherto been constructed.

A further object is to so construct the apparatus employed for agitating the leaves of tobacco that the feeding may be more readily accomplished and the atomizer may be placed in the most effective position for work.

In the accompanying drawings, Figure 1 is a perspective view of a tobacco-sprinkling machine constructed in accordance with my invention. Fig. 2 is a transverse sectional elevation of the same. Fig. 3 is a sectional elevation of the atomizing device on an enlarged scale. Fig. 4 is a perspective view of a detail of the atomizer, and Fig. 5 is a front view of the machine.

The working parts of the apparatus are supported upon a suitable frame-work A, which is set at an incline, if desired, as shown in Fig. 5, in order that the feed of the tobacco through the machine may be more readily accomplished.

In suitable bearings on the frame are mounted two shafts B C, each of which carries sprocket-wheels *b c*, secured to the shafts at some distance from each other and serving to guide the link belts *d*, secured to each side of the tobacco-carrying belt D. This belt D consists of a series of narrow slats, preferably of wood, each slat having its opposite ends connected to one of the links of the belt *d* and the whole outer surface of the belt being covered with some flexible material, such as canvas or rubber, so that it will offer no resistance to the passage of the belt over the wheels *b c*.

At the rear end of the machine additional sprocket-wheels E are fixed upon the shafts B C, these wheels being connected by a link belt *e*, so that driving motion imparted to one or other of the shafts B C will cause a corresponding movement of the other shaft, and the belt D will be taken up by the wheels *b* as fast as it is delivered by the wheels *c*. Owing to this equal movement of the belt, that portion of the belt which receives the tobacco may be made to assume the form of a partial cylinder, as shown more clearly in Fig. 2, the radius of which may be adjusted by the adjustment of the links of the chains *d* with respect to the sprocket-wheels *b c*, the greater the length of belt placed between the wheels *b c* on the working side the smaller the radius of the cylinder, and vice versa.

Owing to the character of the covering of the slats composing the belt and the manner in which it is secured to said slats, the cover will be stretched somewhat between the slats as the belt passes over the wheels *b c*, and as the belt follows the course of the partial cylinder the loose portion of the covering between the slats will be pressed up in the form of ribs, which will act to carry the tobacco up the side of the cylinder and loosen the leaves for the better action of the atomizer. These ribs will disappear as the belt passes over the wheels *b c*, owing to the greater space between the slats, so that any tobacco carried up to that point will fall back to the bed of the machine. In order to insure the return of the tobacco to this portion of the cylinder, I employ a brush F, mounted upon a shaft *f*, and rotating in contact with the belt, as shown in Fig. 2, the brush also serving to keep the belt clean and prevent an accumulation of the liquid discharged by the atomizer.

The tobacco is fed into the machine by a chute G, which projects some distance over the edge of the belt, its lower edge being nearly in contact with the ribs, so that the tobacco is gradually drawn from the chute by the movement of the belt, and any overfeeding is prevented.

The atomizing device is mounted upon the frame of the machine, and consists of a slowly-rotating liquid-gathering roll and a discharging-brush roll, the lower roller H being mounted in bearings *h* at the opposite ends

of a tank J, containing the liquid employed in treating the tobacco, and being formed of any suitable material to which a slight film of the liquid will adhere.

At the top of the tank is pivoted a curved scraping-blade *k*, having its edge resting against the roll, and adapted to remove the film of the liquid from said roll and maintain a small quantity of the same upon its curved surface.

At a convenient point between the surface of the liquid and the scraping-blade I place a blade *l*, which may be adjusted by any suitable mechanism from or toward the roll, so that the amount of liquid carried by said roll may be adjusted and the tobacco saturated more or less, as desired.

Above the roll H, and mounted in suitable bearings on the frame-work of the machine, is a brush-roll I, provided with a large number of spring wires or fingers *i*, this roll being so adjusted with relation to the lower roll H that when rotated in the direction of the arrow the springs *i* will project the liquid from the curved surface of the blade *h* upon the tobacco passing through the agitating device, and owing to the minute surface of the end of the wires and the small quantity of liquid upon the blade *k* the liquid is very finely atomized, and the tobacco is thoroughly moistened without danger of any portion of it receiving too much of the liquid; or, if desired, the scraping-blade may be omitted and the brush-roll I may rotate directly in contact with the liquid-roll and discharge upon the tobacco the film of liquid carried thereby.

The necessary rotative movement is imparted to the rolls H and I by means of belts *h h'*, running over pulleys *m m'* on a shaft M, rotated by a belt *p*, running from a pulley on the shaft C.

In operation the tobacco fed in at the chute G is carried up by the belt D, falling down again to the bed of the partial cylinder formed by the belt after coming in contact with the brush F. This movement loosens the leaves of the tobacco and brings them under the action of the atomizing device, after which they are discharged from the side of the belt.

Having thus described my invention, I claim and desire to secure by Letters Patent—

1. The combination of the agitating device with an atomizing device, the same consisting of a tank, a rotated liquid-raising roller therein, a scraping-blade adapted to gather a quantity of the liquid from said roller, and a brush-roll adapted to project the liquid from said blade, substantially as specified.

2. The combination, with an agitating device, of an atomizing device, the same consisting of a tank, a water-raising roller therein, and a rotated brush adapted to bear against the surface of the roller and to discharge the film of water carried thereby, substantially as specified.

3. The combination, with an agitating device, of an atomizer consisting of a liquid-gathering roller, a brush-roller adapted to project the liquid therefrom, and an adjustable blade adapted to regulate the thickness of the film of liquid carried by the liquid-gathering roll, substantially as specified.

4. The combination, in a tobacco-treating machine, of an atomizer with an agitating device, the same consisting of a belt adapted to carry the tobacco, and devices for guiding said belt into the form of a partial cylinder, substantially as described.

5. The combination, in a tobacco-treating machine, of an atomizer with an agitating device comprising a covered slatted belt guided to the form of a partial cylinder, the surplus covering being made to assume the form of ribs, substantially as specified.

6. The combination, in a tobacco-treating machine, of an atomizer with an agitating device comprising a slatted belt curved to the form of a partial cylinder, and a brush rotated in contact with said belt to clean the same, substantially as specified.

7. The combination, in a tobacco-treating machine, of an atomizer with an agitating device comprising a slatted belt in the form of a partial cylinder, link belts at the opposite edges of said slatted belt, sprocket-wheels adapted to guide said link belts, and a tobacco-feeding device, substantially as specified.

8. The combination, in a tobacco-treating machine, of the frame, longitudinal shafts mounted in bearings on said frame, a slack agitating-belt passing around said shafts, with an atomizer and a feed-chute situated in front of said belt, substantially as and for the purpose set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN THOMAS CARTER.

Witnesses:
J. L. ALLEN,
F. A. DAY.