

(No Model.)

3 Sheets—Sheet 1.

J. T. CARTER.  
TOBACCO CASING MACHINE.

No. 480,070.

Patented Aug. 2, 1892.

FIG. 1.

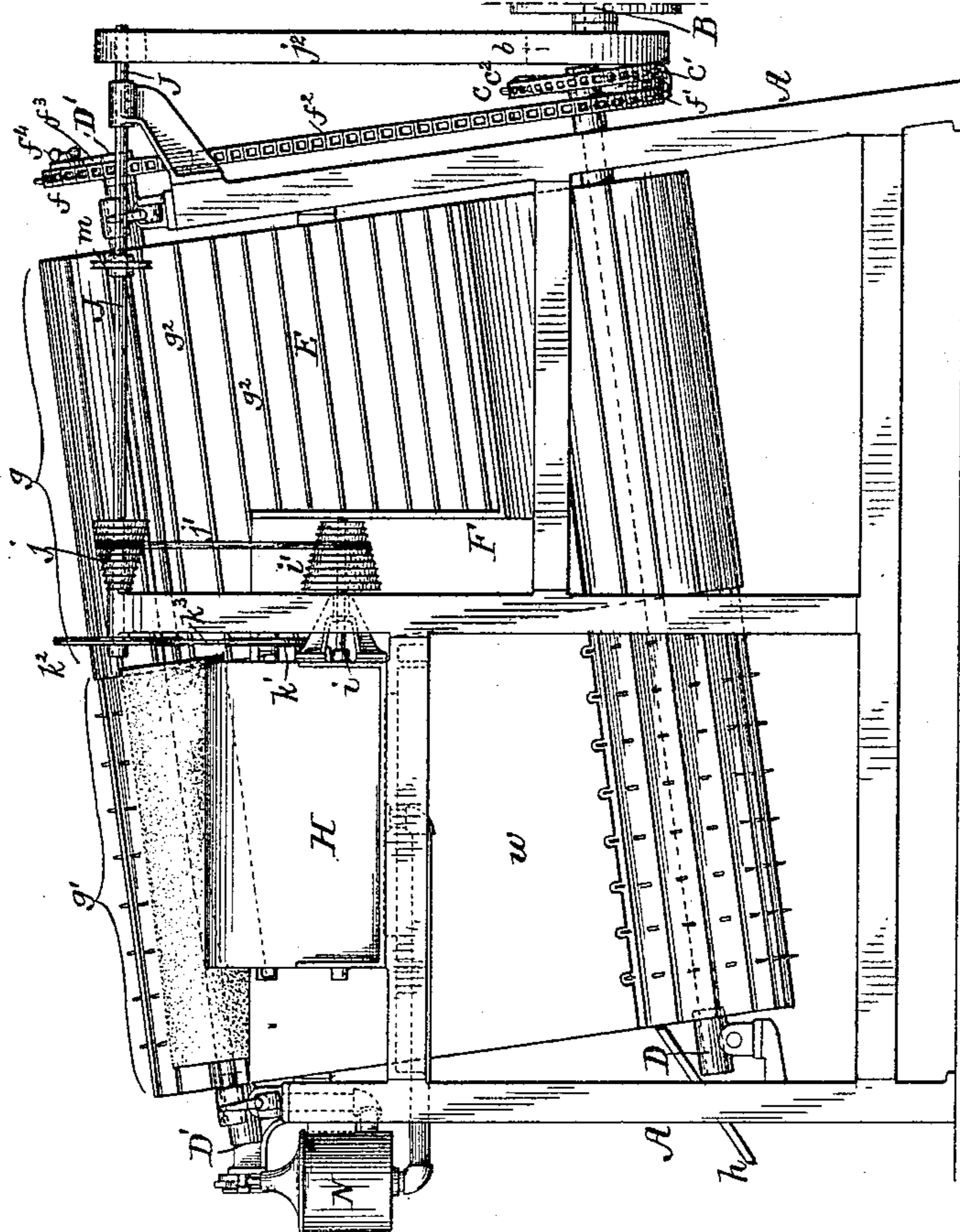
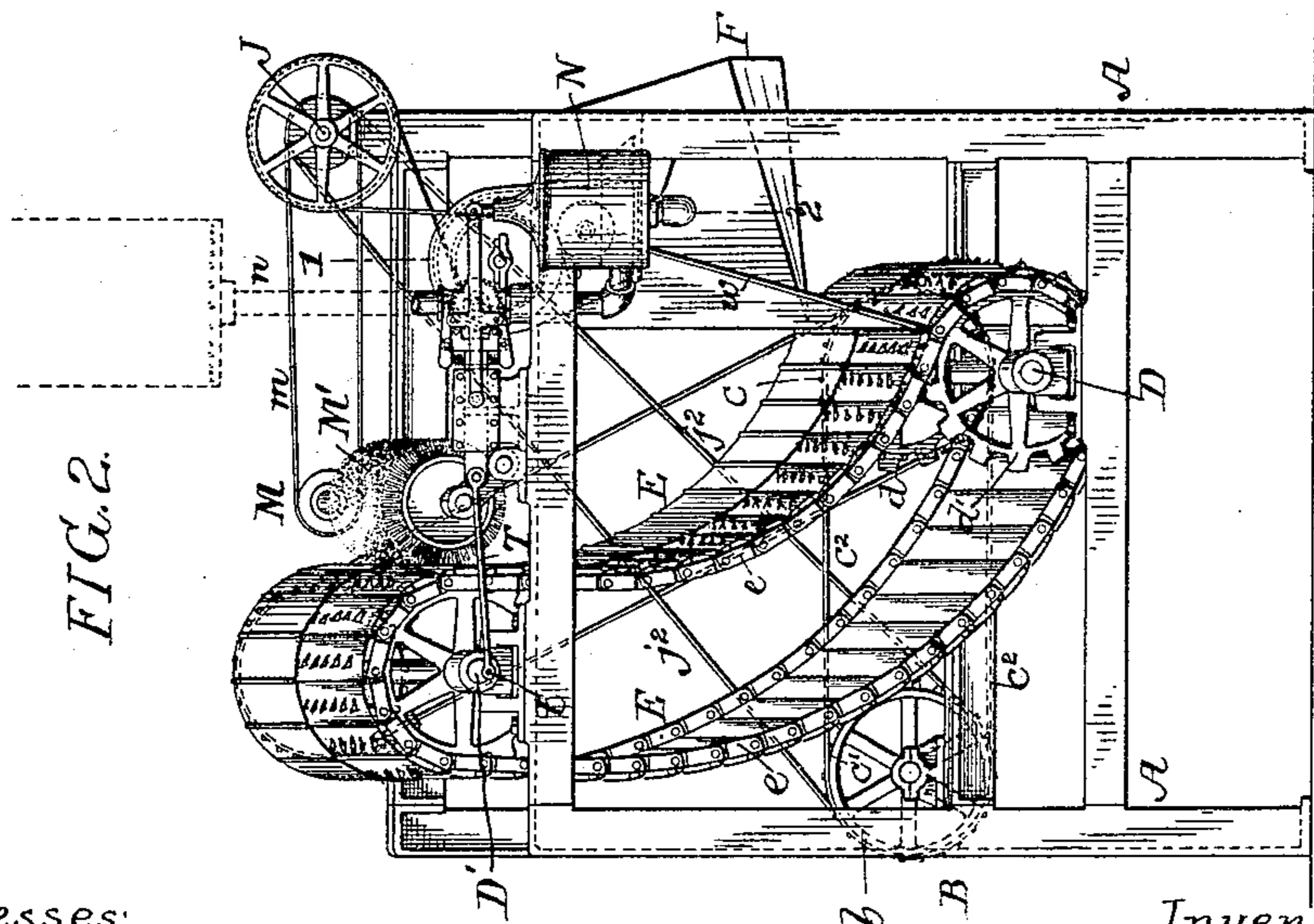


FIG. 2.



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*Edw. H. Goodwin.*

Inventor.  
John T. Carter.  
by his Attorneys  
*Howson & Howson*

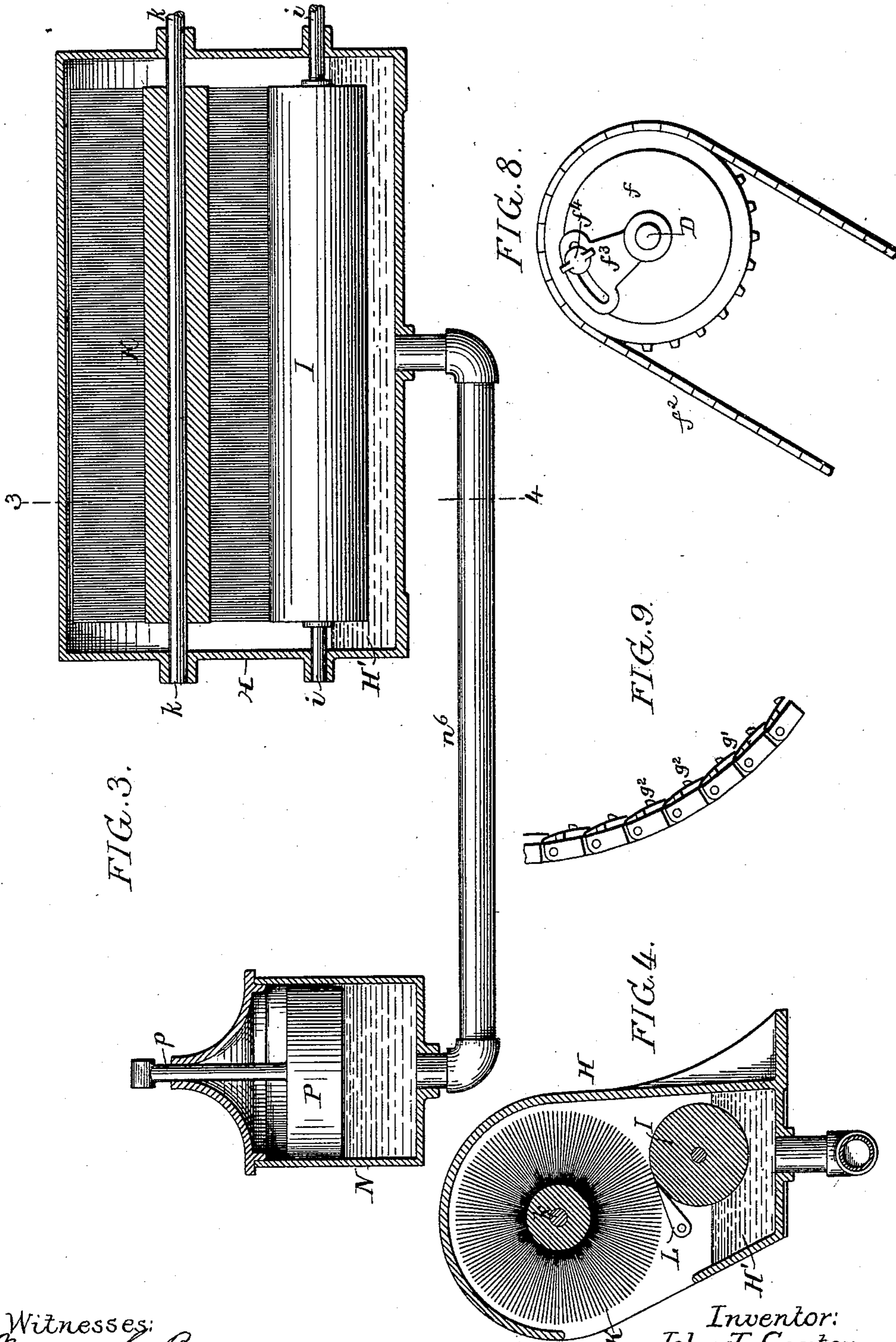
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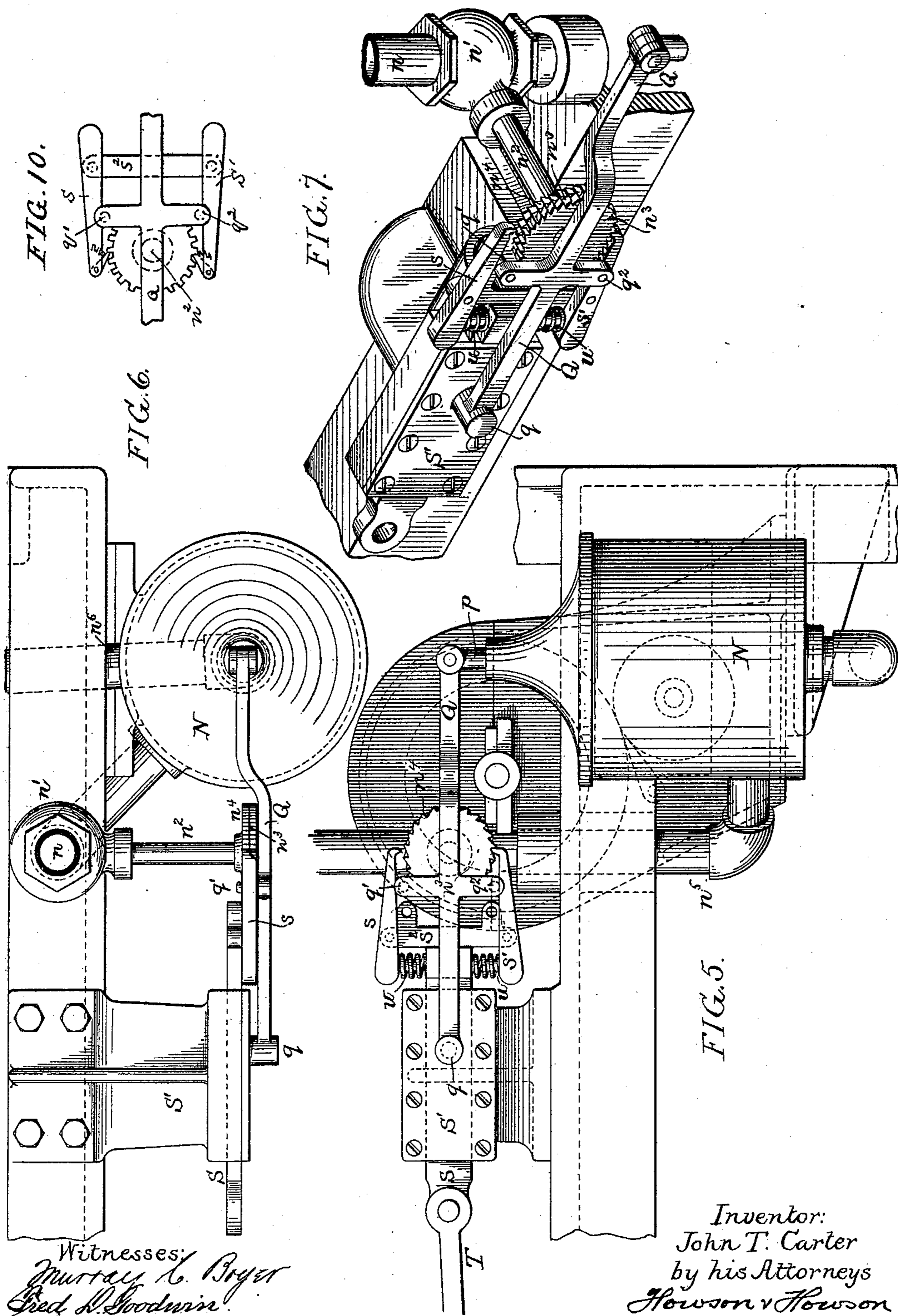
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# UNITED STATES PATENT OFFICE.

JOHN T. CARTER, OF DANVILLE, VIRGINIA, ASSIGNOR TO THE CARTER MACHINE COMPANY, OF SAME PLACE.

## TOBACCO-CASING MACHINE.

SPECIFICATION forming part of Letters Patent No. 480,070, dated August 2, 1892.

Application filed June 6, 1891. Serial No. 395,377. (No model.)

*To all whom it may concern:*

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

The object of my invention is to construct a machine for casing or spraying tobacco, my  
10 invention being based on the patent granted to me February 10, 1891, No. 446,247.

My present invention relates to details in the construction of the machine and to mechanism for automatically regulating the supply of liquor to the spraying-tank.  
15

In the accompanying drawings, Figure 1 is a side view of my improved tobacco-casing machine. Fig. 2 is an end view. Fig. 3 is a sectional view on the line 1 2, Fig. 2, of the spraying mechanism, drawn to an enlarged scale. Fig. 4 is a section on the line 3 4, Fig. 3. Fig. 5 is an enlarged view of the liquor-regulating device. Fig. 6 is a plan view of Fig. 5, and Fig. 7 is a perspective view of a  
25 portion of the device shown in Fig. 5. Figs. 8 and 9 are views of details of the mechanism, and Fig. 10 is a view of a modification of valve-operating device.

A is the frame of the machine, made, preferably, in the manner shown in Figs. 1 and 2.  
30

B is the driving-shaft, adapted to bearings on the frame, and on this shaft is the belt-pulley *b*, through the medium of which power is applied to the machine.

35 D D' are two inclined shafts having their bearings in blocks on the machine, and on these shafts are sprocket-wheels *d d'*, with which engage the chains or links *e e* on the carrier-belt E, which supports the tobacco in its trough as it is fed through the machine.  
40 On the inclined shaft D is a chain-wheel *c*, driven from a chain-wheel *c'* through the medium of the belt *c<sup>2</sup>*. The shaft D' has a sprocket-wheel *f*, over which passes the chain *f<sup>2</sup>* from the wheel *f'* on the shaft D. The wheel *f* is loose on the shaft D', but is connected to the shaft through the medium of a segment *f<sup>3</sup>* and a set-screw *f<sup>4</sup>*, Fig. 8, so that the trough of the belt can be adjusted to different curves  
45 by simply adjusting the shaft in respect to

the wheel. The belt is placed at the incline shown, so that the material will be fed from the receiving end past the spraying apparatus by gravity.

F is the feed-chute for feeding the tobacco  
55 to the machine, and *h* is a chute at the delivery end of the belt to carry the treated tobacco away from the machine.

The belt E is composed of a series of slats, a portion of the belt *g* being preferably covered with canvas or similar material, this portion *g* being opposite the feed-chute F. The ribs *g<sup>2</sup>* of the belt are formed in the manner clearly described in my former patent and acts to carry the material up the belt, permitting the leaves to fall over and over while they pass through the machine. The canvas between the slats forms the ribs and as the belt passes over the shafts this canvas is taken up and the ribs disappear, thus preventing the belt from carrying tobacco-leaves over the upper shaft. The portion *g'* of the belt is preferably made of metallic slats, as clearly shown in Figs. 2 and 9, one edge of each slat being secured to the link belting  
60 and the opposite edge of each slat overlapping the one following it. Each slat has in this instance a series of lugs *g<sup>2</sup>*, which tend to carry the tobacco up in front of the spraying device.  
65  
70  
75  
80

I preferably arrange the spraying device H opposite the metallic portion *g'* of the belt, as I have found that the canvas absorbs the liquor and in time gums and it is not so readily cleaned as the metal.  
85

The spraying device H is constructed as follows: The casing of this spraying device is mounted in any suitable manner on the frame of the machine and has at its lower end a trough H' for the liquor. Partly submerged in the liquor is a roller I on a shaft *i*, having its bearings in the casing and provided with a cone-pulley *i'*, which is geared to a cone-pulley *j* on a shaft J by a belt *j'*, adapted to bearings on the frame of the machine. This shaft J is driven from the main shaft B by a belt *j<sup>2</sup>*. (Clearly shown in Fig. 1.)  
90 Mounted above the roller I, in the casing of the spraying device H, is a brush K, having a shaft *k*, adapted to bearings in the casing  
95  
100

and provided with a pulley  $k'$ , which is driven from a pulley  $k^2$ , on the shaft J through the medium of the belt  $k^3$ . This brush is so fixed in relation to the roller that it will remove  
 5 part of the film on the roller and spray it onto the tobacco which is carried by the belt. I preferably place in front of the roller I a pivoted blade L, Fig. 4, which may be so formed as to receive the liquor from the roller as clearly  
 10 set forth in my patent above referred to.

Mounted on the frame of the machine is a brush-shaft M, carrying the brush  $M'$ , which revolves in contact with or in close proximity to the tobacco-carrying belt at or near  
 15 the top of the machine. This brush-shaft is driven from the shaft J through the medium of the belt  $m$ .

In order to keep the liquor in the spraying-tank at the proper level, I provide automatic  
 20 feeding mechanism. Referring to Figs. 3, 5, 6, and 7,  $n$  is the inlet-pipe from the reservoir or other receptacle for the liquor.  $n'$  is a valve.  $n^2$  is the valve-stem, provided with two ratchet-wheels  $n^3$   $n^4$ , these wheels being secured to  
 25 the stem  $n^2$  and to each other and forming, in fact, a single wheel having two sets of ratchet-teeth.  $n^5$  represents a continuation of the feed-pipe  $n$  and leads to the cylinder or float-box N, as shown in Fig. 5, and the pipe  $n^6$  forms a  
 30 communication between the float-box N and the liquor-tank  $H'$ , as clearly shown in Fig. 3.

In the cylinder N is a float P, having a rod  $p$  connected to a lever Q, which is pivoted to the fixed portion of the machine at  $q$ . On  
 35 this lever Q are two pins  $q'$   $q^2$ , which act upon pawls  $s$   $s'$ , respectively. The pawl  $s'$  engages with the ratchet-wheel  $n^3$  and the pawl  $s$  engages with the other ratchet-wheel  $n^4$ , as shown clearly in Fig. 5, and both pawls  
 40 are pivoted to the head  $s^2$  of the slide S, which is adapted to the box  $S'$  on the frame of the machine. This slide is connected to an eccentric-pin  $t$  on the shaft  $D'$  by a rod T, (clearly shown in Fig. 2,) so that as the shaft  
 45 revolves the slide will reciprocate. Between the rear arms of the pawls  $s$   $s'$  and the slide are springs  $u$ , which tend to force the points of the pawl into engagement with the ratchet-wheel. Thus when the liquor rises in the  
 50 cylinder N it lifts the float, which raises the lever Q and throws the pawl  $s$  out of gear with its ratchet-wheel  $n^4$  and allows the pawl  $s'$  to engage with its wheel  $n^3$ , and as the slide S reciprocates continuously the pawl will  
 55 turn the valve-rod and close the valve; but if the level of the liquor is lowered the float will fall and the pawl  $s'$  will be thrown out of gear with its wheel  $n^3$  and the pawl  $s$  thrown into gear with its wheel  $n^4$  and open the valve  
 60 and the liquor is allowed to flow into the cylinder. Thus the liquor in the tank and in the spraying device is kept as near as possible at the same level. The ratchets may be so  
 65 formed on one wheel as to dispense with the two wheels, as shown, and a toothed wheel may be used with pawls, each having a pivoted finger which will engage the teeth of the

wheel going one way and slips over the teeth when moved in the opposite direction.

As shown in Figs. 1 and 2, I preferably  
 70 place a fence or partition  $w$  in the machine, which will protect to a certain extent the tobacco during the spraying process and will not allow it to fall away from the machine until it reaches the end of the belt; but in  
 75 some cases this partition may be dispensed with.

I claim as my invention—

1. A carrying-belt for tobacco-spraying machines, having one part covered with canvas  
 80 and the other part surfaced with metallic slats overlapping each other, substantially as described.

2. The combination, in a machine for casing tobacco, of the two inclined shafts, a slack  
 85 carrying-belt for the tobacco, adapted to the shafts, said carrying-belt having part of its surface composed of metallic slats overlapping each other, with a spraying device opposite said metallic slats, substantially as de-  
 90 scribed.

3. The combination, in a tobacco-spraying machine, of the two shafts, a carrying-belt adapted thereto, wheels on said shafts, the  
 95 wheel on one shaft being adjustable thereon, and means for locking the wheel to its shaft, with a chain belt passing over the wheels on the shafts so that one shaft is driven from the other, the whole so arranged that the trough of the belt can be regulated, substantially as  
 100 and for the purpose described.

4. The combination, in a tobacco-casing machine, of the inclined shafts, carrying-belt thereon, mechanism for driving said shafts, a  
 105 feed-chute, and a partition or fence, with a spraying device for spraying the tobacco as it passes along the belt, the whole arranged substantially as described.

5. The combination, in a tobacco-spraying machine, of the feeding devices for the to-  
 110 bacco, a spraying device having a tank for the liquor, a float box or cylinder connected to the tank, a float in said box, and a valve controlled by said float, whereby the supply of liquor to the float-box is regulated, substan-  
 115 tially as described.

6. The combination of a spraying device, the tobacco-agitating belt, a tank, a float-box connected to said tank, a float in said box, a  
 120 lever connected to said float, a reciprocated slide, pawls carried thereby, ratchet-wheels with which said pawls are adapted to engage, a feed-pipe for said float-box, a valve therein controlled by said ratchet-wheels, and projec-  
 125 tions on said float-lever acting to throw one or other of the pawls into or out of gear with its ratchet-wheel, whereby the valve in the feed-pipe is operated and the supply of fluid is regulated, substantially as specified.

7. The combination of the float-box, a float  
 130 therein, a lever connected to said float, projections on said lever, a reciprocating slide, pawls on said slide, situated in the path of the projections on the lever, an inlet-pipe for the

float-box, a valve in said pipe, a ratchet-wheel  
controlling the operation of said valve, and  
the pawls being arranged to operate the valve  
through the medium of the ratchet-wheels,  
5 substantially as described.

8. The combination, in a tobacco-spraying  
machine, of the inclined shafts, tobacco-car-  
rying belts thereon, tobacco-spraying device,  
a float-box, a float therein, a float-lever, a re-  
10 ciprocating slide, a connecting-rod connected  
to a crank-pin on one of said inclined shafts  
and to the slide, whereby a reciprocating mo-  
tion is imparted to said slide, pawls carried  
by said slide, a supply-pipe for the liquor, a

valve therein, ratchet-wheels on the spindle 15  
of the valve, and pawls adapted to engage with  
said ratchet-wheels, with projections on the  
lever connected to the float for throwing one  
or the other of the pawls out of engagement  
with its ratchet-wheel, substantially as and 20  
for the purpose set forth.

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

JOHN T. CARTER.

Witnesses:

W. F. PATTON,  
F. L. WALKER.